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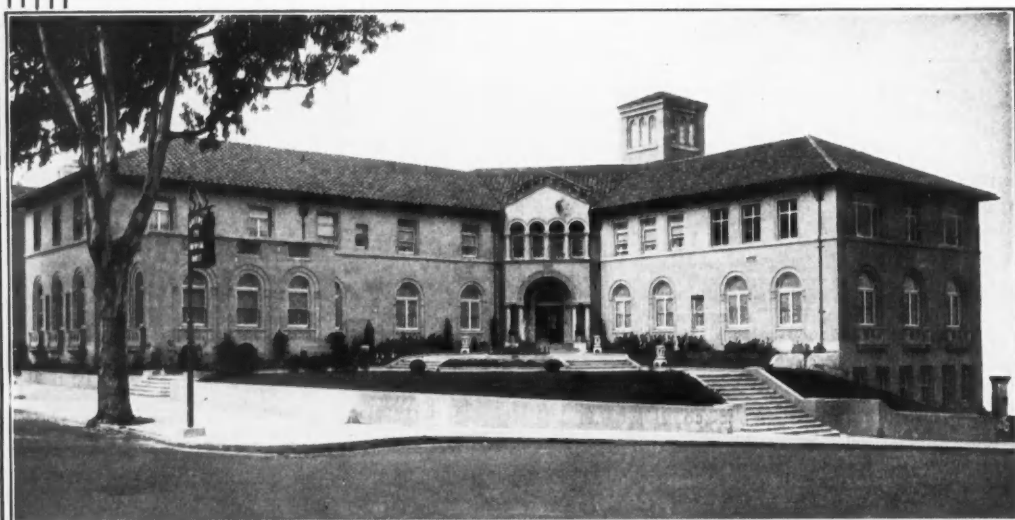
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DERMATOLOGIC THERAPEUTICS—BASIC PRINCIPLES AND TECHNIQUE*

By MOSES SCHOLTZ, M. D.
Los Angeles

DISCUSSION by *Stuart C. Way, M. D., San Francisco;*
George D. Culver, M. D., San Francisco.

THE clinical control of skin diseases is notoriously a weak spot in the therapeutic armor of the general practitioner. Yet skin disorders constitute a large item in general practice. These therapeutic difficulties result not so much from lack of special training and equipment as from lack of knowledge of the basic principles and rationale of dermatologic therapeutics. It is the purpose of this paper to present a short résumé of these principles and to illustrate their practical application.

ETIOLOGIC VERSUS SYMPTOMATIC TREATMENT

It is a truism that the first step in successful therapeutics is correct diagnosis. A correct diagnosis does not mean necessarily correct treatment. There are a number of dermatoses, diagnosis of which is simple but treatment is uncertain and difficult, such, for instance, as psoriasis, pemphigus, and various disturbances of pigmentation. In cases where diagnosis is unavailable at once, treatment is bound to be symptomatic. The most common subjective symptom in numerous dermatoses is itching, hence antipruritic local applications are frequently required.

Whenever etiologic or specific treatment is unavailable the *best indicator and guide of the symptomatic local medication is offered by the gross pathology presented by the skin lesions.* Thus, if the skin lesions present an acute inflammatory condition the proper application would be a cooling and protective ointment, such as plain Lassar's paste, zinc ointment, boric ointment, zinc oil cream or calamin lotion in dry dermatoses, and Burrow's solution in weeping exudative eruptions.

If a dermatosis presents an exudation of purulent secretion, antiseptic lotions containing sulphur, mercurials, or alum acetate are indicated. If a skin lesion presents an infiltrated eczematoid surface, absorptive and stimulating ointments containing salicylic acid, and particularly tar, are indicated.

Should lesions present a glandular and follicular involvement of an inflammatory or infectious

nature, sulphur applications are useful. Accumulated horny deposits and scales call for peeling applications such as concentrated salicylic acid ointments.

Granulomatous lesions of apparently mycotic or bacterial nature call for local or systemic administration of iodine.

Skin lesions presenting verrucous or tumorlike masses, unless proved to be of mycotic or bacterial origin, call for a destruction by electrocautery surgery or actinic radiation.

These general indications will help to therapeutic orientation in cases without early diagnosis.

The gross pathology of skin lesions is also our best criterion of the therapeutic efficacy of local applications, as the positive or negative effects of local medication find their first reflection in the increase or decrease of the superficial manifestations of the gross pathology of the skin lesions.

DYNAMIC PRINCIPLE IN DERMATOLOGY

It is most essential for therapeutic efficiency in skin diseases to adopt a dynamic point of view of cutaneous pathology. The same holds true even to a greater extent in dermatologic diagnosis.

The old-time conception of skin diseases as separate morphologic pictures of a certain pattern and design, rigid, immutable and stationary, so persistently emphasized in atlases of skin diseases, has been one of the main sources of diagnostic and therapeutic difficulties encountered by the general profession in handling skin diseases. Diagnostically the static conception is incorrect and misleading because individual dermatoses only in a very few exceptional cases retain, throughout the whole clinical course, the same morphologic design or pattern. In fact, the pictorial design of dermatoses continually changes under influence of various local and systemic factors, yet dermatoses retain some or all of their differential morphologic diagnostic traits sufficient for their identification. Hence, for diagnostic purposes it is not necessary nor desirable to retain in memory a pictorial design of a typical case of a dermatosis, but it is sufficient merely to know the syndrome of morphologic details which characterize it. In other words, *dermatologic diagnosis can be made with a much greater degree of certainty on the presence or absence of several or all morphologic traits peculiar to a certain dermatosis than on the general pictorial design and impression of this dermatosis.* Therapeutically the dynamic principle is of equal importance. Because of the ever present possibility of changes

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in the gross appearance of the skin lesions and the endless variety of these changes there cannot be a standard therapeutic formula for each case.

REGIONAL ANATOMIC DIFFERENCES OF THE SKIN

Among the factors contributing to variability of the cutaneous lesions should be mentioned the difference in the texture of skin in various anatomic regions. If overlooked or ignored, this factor is a common source of therapeutic errors and failures. Compare, for instance, the thick skin on the palms, soles or back and fine skin on the face, female breast, interdigital spaces, and genitocrural region. Also compare the thick, coarse, resistant skin of a dark-complexioned male adult and the thin tender skin of a young blond female or the still more vulnerable skin of a young child or infant. The difference in the tolerance and resistance of these types of skin is tremendous and should never be forgotten in the evaluation and selection of local medication.

The presence of hair calls for a different therapeutic technique than glabrous skin. Thus, on the scalp heavy ointments with heavy base, such as zinc ointment, Lassar paste, or lanolin, should not be used, but only soft bases such as petrolatum or white boric ointment (U. S. P., 9th edition) or, still better, oily and liquid applications.

PECULIARITIES OF CUTANEOUS PATHOLOGY

To understand fully the practical importance of the dynamic principle in clinical dermatology one must remember the inherent peculiarities of the cutaneous pathology due to the topographic location of the skin in human anatomy.

The skin is the only surface organ in the human body, occupying, in comparison with other organs, an enormous area supplied with a highly complex and rich network of blood vessels and nerve endings.

The skin is the only organ which constantly and continually is exposed to all kinds of external irritants, such as atmospheric and physical agents—air, dust, wind, sun rays—as well as to traumatic and mechanical irritants of all types, occupational or accidental. Being an important secretory organ the skin is subject to irritation by its own secretions—sweat, oil, and desquamating epidermis. It is also often subjected to that specific dermatologic insult—scratching—due to itching (the defensive skin sensory reaction equivalent to pain in visceral organs). One can readily see that the skin, the casing and external protector of the body, receives the brunt of external irritation.

This factor of traumatic exposure and vulnerability of the skin profoundly influences cutaneous pathology and sharply differentiates it from that of visceral organs. While visceral organs present ordinarily only one type of lesion, the skin has a strong tendency to develop secondary lesions which may completely disguise and overshadow the primary pathology. These secondary lesions may be manifold in type. The most common are excoriations and scratch marks. They

commonly lead to a secondary pyogenic infection of a follicular pustular type or of a diffuse impetiginous character. Just as scratching and rubbing often lead to the thickening and lichenification which is observed in many chronic eczemas.

It is obvious also that the skin offers a natural pabulum for all types of saprophytic bacteria and fungi which may cause primary or secondary infection. Finally local medication and physiotherapeutic applications often produce a secondary dermatitis which disguises and conceals the primary dermatosis.

The failure to correctly recognize the primary and the secondary skin lesions and to interpret their proper relationship is responsible for a large number of therapeutic failures. *As a rule the secondary skin lesions should be treated first.* Thus, pyogenic infection in scabies, tinea, or eczema is to be treated first, and the underlying primary dermatosis later. Also the secondary dermatitis, due to overtreatment, should be controlled first.

ATTENTION TO DETAILS

Since the inferences and deductions of dermatologic diagnosis and treatment are based essentially on the visual perception, a careful observation of morphologic details and minutiae becomes a matter of paramount importance in dermatologic diagnostic technique. For this reason an observing eye is necessary to a dermatologist. The same attention to details is of paramount importance in dermatologic therapeutics. A complete and detailed survey of the whole affected area is necessary for a proper therapeutic evaluation. Every detail of the previous treatment, diet, occupational environment, and general regimen of the patient is to be considered by the clinician. Every factor of clinical significance which may enhance or inhibit the effectiveness of local or systemic medication must be taken into consideration.

One of the common causes of therapeutic failure is inadequate attention to details. The presence of multiple skin lesions of one type, but in different stages; or of different types of lesions which require different types of local medication may be treated identically under a wrong assumption that all the lesions are one and the same condition.

Equally common is the failure to recognize the presence of secondary skin lesions superimposed on the primary dermatosis, and the administration of uniform treatment where two different types of local application are indicated.

In physiotherapeutics attention to details is still more important because of the possibility of injury of more serious and deeper character. The proper distance, proper angle of application, carefully gauged dosage of individual treatments and proper interval between the treatments, the proper protection of the parts adjacent to the radiated area, the correct thickness and material of the filter, if such is used, the dependable time clock with alarm clock attachment, the proper watching

of the patient when he or she is restless and inclined to change the position set (particularly important in the case of children)—these and many other details are to be constantly watched and considered. Directions as to the use of ointments, lotions and other medicaments, should be explicit and definite to the smallest detail on items such as the frequency of application, proper dilution, the technique of application and cleansing.

In no other matter are more offenses committed in regard to attention to details than in diet. Routine, indefinite and stereotyped dietetic advices, are a practice commonly observed; the opposite should be the rule.

It is futile and useless to accept the patient's statement that "he or she eats very little meat" or "does not like sweets." The only proper and effective way of dietetic regulation is to make a patient prepare a full and detailed list of every item of food consumed, and to check up personally the list. Patients consciously or subconsciously, but mostly through lack of medical intelligence, give most misleading and defective reports of their menu. Do not fail to check up in detail and in the most exacting manner every item of personal hygiene and every factor of home environment that may cause or aggravate the skin condition. Patients are very prone to forget about such items, and the clinician will easily miss them unless he is constantly on the lookout for them. Quite often, for instance, a patient, in his desire to help the doctor, uses some irritating disinfectant, such as lysol or formaldehyd, and fails to mention it to the doctor.

The technique of cleansing the skin before the fresh application of ointment or lotion is extremely important. This is particularly true in infectious dermatoses due to bacteria or fungi. It is surprising how many pyodermata resist an apparently correct treatment because the patient is not instructed in detail to remove the crusts from every impetiginous lesion; as a result, they apply the prescribed antiseptic ointment on top of a thick impetiginous crust which gives ample protection to the pyogenic germs underneath. On the other hand, patients often use rude force in removal of crusts, traumatize tissues, make lesions bleed and spread infection instead of checking it. The quality and technique of dressing is also of practical importance. It is an accepted custom in private practice and institutions to use surgical gauze as a dressing material in all weepy skin lesions. Nothing is more unsuitable, injurious and irritating to the inflamed, raw and macerated skin than the porous texture of surgical gauze which sticks to and indents itself deeply in the softened tissue of such skin. The least effort at separation invariably leaves a bleeding, traumatized and greatly irritated surface. Absorbent cotton oiled or moistened with some liquid application is much more acceptable. By far the best and the least irritating dressing material for bandages are smooth solid goods, such as old washed linen, muslin, cheesecloth, or plain cotton goods.

Another therapeutic atrocity commonly committed in dermatologic cases is the use of superabundant mile-long bandages, and the covering of weepy skin eruptions with heavy layers of cotton. These heavy bandages are irrational and distinctly harmful, particularly in pyogenic dermatoses, as they contribute to overheating, render lesions airproof, hamper free drainage, and interfere with cleansing. (The unnecessary waste of material is the least offense in these cases.) Nothing is more rational or more helpful in these cases than moderate exposure to the air and sun and the lightest and smallest possible protective dressing.

Minor, but important practical details of personal hygiene, such as bathing, shaving, cutting hair, are all to be carefully considered and decided in accord with the individual requirements of each case.

PRESCRIPTIONS AND FORMULAE

A relic of the old-time teaching of dermatology, but one, unfortunately, still popular with the profession, is the use of favorite prescriptions and therapeutic formulae recommended by various authorities. In actuality, those who depend for therapeutic results on these cherished formulae are commonly disappointed, to their surprise. The reason is simple. The original creator of the prescription or formula used it in a certain type of case and modified it to meet individual requirements. The imitators and compilers copy and use formulae mechanically and routinely without modification for the clinical differences of individual cases. The formulae and prescriptions can be helpful and useful only if accepted as a skeleton key, as a tentative suggestion which is to be modified and adjusted to meet the requirements of the individual case.

DIET

The therapeutic value of diet in skin diseases seems to be established in the mind of the general public. Skin patients invariably ask for a diet list of permitted and prohibited items of food. There is a good deal of empirical wisdom behind this belief. To be effective, dietetic advice has to be definite and suitable to an individual case.

Obviously, the therapeutic value of diet is demonstrated best in the systemic dermatoses due to alimentary intoxication. However, clinical dermatologic experience shows that even in dermatoses caused by external irritants and bacterial or mycotic infection, as well as in systemic dermatoses of nonalimentary origin, dietetic restriction of the general amount of food, and particularly of sugars and proteins, is very helpful. Thus, in all pyodermic and mycotic dermatoses sharp reduction of sugars is indicated. In acute generalized eczemas semistarvation in the form of a fruit and vegetable diet is indicated. In anaphylactic dermatoses, such as eczemas and urticarias, the offending protein must be identified and eliminated. Skin food tests are more apt to be helpful in contact allergic than in food allergic cases. In food allergy it is a slower but safer procedure to reduce diet to the minimum number of food items

proved empirically harmless to the patient and to add one item of food at a time. This technique gives the surest method to identify the offending allergic proteid and to build up the patient's diet.

In systemic dermatoses due to alimentary or metabolic toxemia, such as eczemas, psoriasis, lichen planus, dermatitis herpetiformis, urticaria, erythema multiforme, sharp restriction of proteids is imperative.

Seborrheic and exudative eczemas call for a restriction in fats, sugars, and starches.

Speaking generally, a sharp reversal in diet from a proteid and sugar-rich putrefactive and fermentative diet to a lean one, consisting chiefly of fruit and vegetables, is invariably helpful. In this regard the use of acidophilus milk and lactodextrin should be mentioned.

Skin patients are, as a rule, eager to submit to dietetic restrictions, but rightly they insist on definite and specific directions and instructions.

GENERAL REGIMEN

The general regimen is of importance in all systemic dermatoses. The majority of skin cases can be handled in an ambulatory way, without confinement to the house, still less to bed. Only in exceptional cases with lesions of universal distribution, in cases suffering from extreme discomfort, with elevation of temperature, or where frequent change of dressing is necessary, is rest in bed advisable or even imperative.

Generally speaking, rest in bed is rather contraindicated in skin diseases because it is conducive to overheating the patient and making him uncomfortable.

Closely connected with this is the problem of proper covering and dressing of skin patients. There is a general tendency to overdress and to overheat skin patients.

The dressing or bandage covering the affected skin area has to be smooth, light, and as cooling as possible. For this reason wool, flannel, or heavy cotton cloth should be avoided and old linen, muslin, cheesecloth, or smooth cotton goods are preferable dressing material. All external atmospheric irritating factors, such as wind, dust, hot sun rays, are to be guarded against. The same holds true in regard to plants, flowers, and a host of occupational and environmental irritants.

Every detail of occupational and home environment is to be searched not only from the point of view of possible causal relationship, but because of its possible irritating effect on the existing dermatosis, irrespective of the etiology.

INTERNAL MEDICATION

Internal medication has a limited yet very definite and important field of usefulness in dermatologic therapeutics. A few drugs of particular usefulness and serviceability can be mentioned.

Calcium lactate, an extremely mild and well-tolerated drug, in doses of five to fifteen grains is useful in a large number of acute and exudative dermatoses because of its tonic hematogenic effects.

Arsenic, age-long reputed skin remedy, has been used indiscriminately in skin diseases of all types. I prefer to use Fowler's solution in gradually ascending doses, one to five drops, three times a day, increasing one drop every week, holding at maximum of five drops for several weeks and just as slowly going down. At present, in view of its specific, definitely stimulating and irritating effect on the skin, its clinical indications are strictly limited. Arsenic should never be used in acute and highly inflammatory dermatoses. It also should not be used in dermatoses showing hyperkeratosis. It is very useful in chronic dermatoses associated with general and nervous debility, such as lichen planus, psoriasis, dermatotic herpetiformis and pompholyx. It is but seldom used now in eczemas.

An extremely valuable drug somewhat recently introduced is sodium thiosulphate, given orally or intravenously. Besides being a specific remedy in heavy metal intoxications, it apparently possesses a general detoxicating effect. It has proved to be useful in various systemic alimentary and metabolic toxic dermatoses. Its therapeutic efficiency is due to its content of sulphur, which shares with arsenic the distinction of being one of the oldest skin remedies.

Gold sodium thiosulphate is another splendid drug recently introduced in dermatologic therapeutics. It has proved to be well nigh specific in that hitherto intractable disease, lupus erythematosus. It is usually given intravenously in gradually ascending doses of 20 to 100 milligrams, but it can also be given safely subcutaneously and intramuscularly. It has proved helpful also in mild cases of psoriasis of the small patchy type, particularly in young girls, in combination with ultra-violet, quartz lamp, or carbon arc radiation. In these cases it should be given weekly in small doses of 15 to 25 milligrams. Lately gold thiosulphate was reported of service in vitiligo, heretofore a totally intractable condition.

Another valuable recent addition, ephedrin sulphate, offers a symptomatic remedy in urticarial conditions.

The intravenous injections of sodium bromid recently proved of value in controlling distressing pruritus in chronic or subacute systemic dermatoses, particularly in neuropathic individuals. In conclusion, I wish to stress the great value of alkaline salts and purgatives in systemic inflammatory dermatoses. My favorites are sodium phosphate effervescent in mild cases and imported Carlsbad sprudel salts, especially in cases of suspected liver disorder, functional or organic.

PHYSIOTHERAPY

Of all therapeutic resources available to dermatologists, physiotherapy is the most effective and powerful. It can be truly said that physiotherapy has revolutionized dermatologic therapeutics.

Ultra-violet light, quartz lamp, or carbon arc possess dermatologically the following effects: (1) bactericidal; (2) antipruritic; (3) stimulative regenerative; and (4) superficially destruc-

tive peeling. On the other hand, x-ray and radium in small and medium doses exert a stimulative alternative and deep absorptive effect, and large doses are lethal to rapidly growing tissues.

Hence ultra-violet light is indicated in all superficial, itchy, infectious, bacterial or mycotic, local or systemic dermatoses. X-ray should be used only in deeper, infiltrating, inflammatory dermatoses, infectious granulomata, bacterial or mycotic, and in skin malignancy.

Since ultra-violet light is practically foolproof (the maximum damage is merely a superficial blistering, spontaneously healing without scars or any injurious sequelae), and x-ray is capable of grave and irreparable injury, it should be a clinical axiom that x-ray should be reserved only for deeper and resistant lesions, as a means of the last resort, never as the first choice. Neither x-ray nor ultra-violet light should be used as the sole therapeutic agency. They should be supplemented by appropriate local and systemic therapeutics. In fact no clinician should use x-ray in skin diseases unless he is also capable and competent to use other dermatologic therapeutic methods.

A thorough grounding in diagnostic and therapeutic dermatologic technique is a much more important qualification for a clinician who uses x-ray in skin cases than the mere technical knowledge of operating an x-ray machine, which can be mastered by a technician or a nurse.

A principle that should be indelibly impressed upon the mind of a clinician using x-ray in skin diseases, is that the therapeutic skill of a clinician is measured by the smallest amount of x-ray used in obtaining desirable therapeutic effect.

Both in x-ray as well as in ultra-violet light, overtreatment is the most common error seen.

Briefly speaking, small and medium doses of one-eighth to one-fourth of an erythema or skin unit in x-ray are sufficient, effective and most rational in the overwhelming majority of dermatoses. Only in malignancy and deep infiltrating skin granulomata are massive or erythema x-ray doses indicated. At the present time dermatologic experience has well established the thorough clinical reliability and effectiveness of MacKee's indirect method of measuring x-ray dosage. X-ray overtreatment, so often observed in the treatment of skin diseases, refers not only to the quantity of ray expressed in amperage, but also to the quality of ray as well, a much higher voltage being commonly used than is necessary for therapeutic effect or compatible with safety to the skin. One hundred kilovolts or more, corresponding to six inches spark gap or over, is often used in superficial dermatoses. X-rays of such penetration are superfluous and actually not so effective, as a considerable amount of them go through the skin without being absorbed by it. Histopathologic investigations have shown that x-ray voltage, even of two to three inches spark gap or fifty to seventy kilovolts, may produce degenerative changes down through all the layers of epidermis and corium.

It is obvious, then, that a spark gap of four to five inches (sixty to eighty kilovolts) is amply sufficient for the majority of dermatologic conditions and that x-rays of six inches (one hundred kilovolts) or more spark gap should be reserved only for dermatosis of a deep infiltrating type. Likewise filtration in superficial dermatoses is superfluous and inadvisable unless a very thin filter of one-tenth to one-fourth millimeter of aluminum is used.

Similarly in the field of ultra-violet light there is a tendency to use erythema and blistering doses more often than is necessary. Persistent emphasis, laid by commercial circulars flooding the profession by manufacturers of physiotherapeutic appliances, has hypnotized the average practitioner into a belief that nothing short of an erythema or blistering dose is sufficient for therapeutic results.

In actuality most of the major therapeutic effects obtained through ultra-violet light rays, such as antipruritic, bactericidal and stimulating regenerative, are obtained by small fractional or medium doses way below the erythema stage. The superficially destructive and peeling effect of the erythema dose is desired only in very small minority of dermatoses such as chronic circumscribed dry scaly mycotic dermatoses, acne, psoriasis, alopecia areata, and some other selected cases.

Hence the fractional and medium dosage of ultra-violet ray is the most serviceable and desirable in the overwhelming majority of clinical dermatologic material. It is to be preferred in all acute and subacute inflammatory dermatoses comprising an enormous clinical group of eczemas, seborrheic conditions, mycotic and pyogenic dermatoses, various types of pruritus, lichens, etc.

ELECTRODESICCATION

One of the most effective weapons recently introduced in dermatologic armamentarium is electrodesiccation, *i. e.*, the unipolar variety of surgical diathermy. Electrodesiccation is a derivative of the old-time high frequency spark brought to a high degree of mechanical efficiency.

The basic difference between the two is that electrodesiccation cauterizes and destroys tissues, not through sparking, which is a very crude and painful method, but through the heat produced in the tissues themselves.

Electrodesiccation can be truly called the best surgical dermatologic tool.

A great variety of small benign tumors and formations on the skin, such as warts, moles, benign cystic tumors, etc., can be removed quickly, aseptically and thoroughly with or without local anesthetic. One important advantage of electrodesiccation over surgery from a dermatologic point of view is the remarkable capacity of electrodesiccation of localizing its destructive effect to the smallest possible areas and sparing the adjacent tissues. This is very essential for good cosmetic results in removing small benign tumors from the face near the eyes, nose, or the mouth.

One of the most important fields of its clinical application is the destruction of skin carcinomas preliminary to x-ray or radium application. This procedure combines the advantages of quick destruction offered by surgery with the additional safety offered by prophylactic radiation.

The electrodesiccation wound heals possibly somewhat slower than the surgical, but it requires much less after-care, gives a practical assurance against an infection, and cosmetically gives most excellent results.

CARBON DIOXID SNOW

Freezing with carbon dioxid snow, the very antithesis of the destruction of electrodesiccation through heat, has lost a good deal of its popularity since the introduction of electrodesiccation in practice.

Freezing still can be used as a method of choice in pigmented and vascular nevi in which it gives splendid cosmetic results. Until the introduction of gold thiosulphate in the treatment of lupus erythematosus, freezing with snow was very popular. It is superfluous at present and should not be used until after a thorough trial of gold injections. Small superficial keloids can be leveled down occasionally, but radium gives much superior results and is a method of choice. Freezing is not effective in hard seed warts.

DERMATOLOGIC PROGNOSIS

In concluding this necessarily brief and sketchy presentation of modern dermatologic therapeutic technique a word in regard to prognosis in skin diseases seems to be appropriate.

As emphasized above, the prognosis in skin diseases has improved enormously in the last two decades.

Speaking generally, the therapeutic strength of a trained dermatologist lies in his capacity for correct recognition and correct interpretation of skin lesions and his ability, with the aid of modern equipment, to produce involution of these lesions.

Hence the best and quickest results can be expected in dermatoses of a strictly local character, parasitic, mycotic and bacterial skin infestations and dermatoses due to external irritants.

The weakness of the dermatologist, shared by his confrères of internal medicine, is the inability to detect and control the underlying etiologic factors in many dermatoses. These unsolved clinical problems offer a fertile field for coöperation between the dermatologist and the internist.

1930 Wilshire Boulevard.

DISCUSSION

STUART C. WAY, M.D. (490 Post Street, San Francisco).—A paper such as the one just given us by Doctor Scholtz should do much to arouse the general practitioner to the fact that recent advances have enabled the dermatologist to offer his pruritic patient more than just a palliative scratch.

The subject-matter under discussion is unlimited, and many of the valuable suggestions offered are clearly the result of years of careful application wherein avoidable therapeutic errors were profitably remembered.

Many therapeutic problems have been thoughtfully enumerated and ably discussed. Emphasis has been justly given to the value of undertreatment rather than overtreatment, for individual susceptibility is an ever present problem and one which increases proportionately with the age of the patient. A recent article in *CALIFORNIA AND WESTERN MEDICINE* (October 1929) by Alderson discusses the growing evil of overtreatment, and deserves very thoughtful consideration.

Systemic diseases with cutaneous manifestations should be treated internally as well as externally. Where diet plays a causative part, written diet lists are usually followed where verbal ones are either forgotten or ignored. Special caution is urged against the improper and careless use of such drugs as ammoniated mercury, sulphur, and tar or their compounds which are frequently the cause of a dermatitis venenata.

Most dermatologists are in accord with the statement that a clinician should not use x-rays or other physical agents in skin diseases unless he is also capable and competent to use other therapeutic methods with complete understanding. Too many technicians are treating cases to the detriment of the patient as well as the referring physician. How many of them have a proper understanding of the histopathology of the skin lesions undergoing treatment and of the tissue reactions produced by the various drugs used?

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GEORGE D. CULVER, M.D. (450 Sutter Street, San Francisco).—Doctor Scholtz has presented a difficult subject briefly and concisely, covering well a great deal of ground. Perhaps next to the specialty of internal medicine that of dermatology is therapeutically most complicated, and not easy to handle in one short lecture.

The reader should be interested in his remarks on inadequate attention to detail. He might have enlarged upon this greatly had there been space to do so. It is not difficult to cite instances to prove the point. In treating impetigo, for example, there may be failure even with the best of remedies improperly used, whereas the simple expedient of proper attention to detail would save the day. The salve might be just the proper one, and yet if it is not carefully applied and gently but well massaged into the affected area it may do little or no good. Then too it may be readily forced away by the serous secretion. By frequently wiping it off and as frequently repeating the application, it will accomplish the result desired. The patient may be told what to do and yet fail to carry out directions properly unless impressed by a careful demonstration.

All know what wonders can be accomplished by bandaging a leg with a flannel bandage in the treatment of chronic leg ulcers. The bandage must be of the proper sort, of the correct width and of sufficient length, and it must be correctly applied. The patient has to be shown. Teaching a patient how to carry on is a slow tedious process, but it so often means the difference between failure and success.

I have reached the conclusion that we as dermatologists have accepted the thought that internal medication has only a limited use in dermatologic therapeutics. Perhaps we have been in error in this respect. I think we have. Doctor Scholtz mentions the specifics and semispecifics, which are few in number, but this same condition holds true throughout the whole of the practice of medicine.

Such a great number of skin manifestations are due to or influenced by internal derangements or affected by constitutional conditions that symptomatic treatment becomes necessary and important. To properly manage this phase of a dermatological practice requires the most careful use of many of the medicaments the internist finds of value. Each patient presents an individual problem. One of the greatest benefits the dermatologist can give to his patient is the treatment, whether medicinal or dietary, or through general advice as to routine of living, that will aid in perfecting the skin and raising its resistance to the point of insuring a greater security against recurrence or the development of similar disturbances.

THE SPECIFIC RADIOSENSITIVENESS OF LYMPHOCYTES—ITS SIGNIFICANCE IN RADIOTHERAPY*

By ARTHUR U. DESJARDINS, M. D.
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THE specific radiosensitiveness of different varieties of cells has been so thoroughly tested and proved by innumerable experiments on animals that it deserves to be recognized as a law. And yet, if we may judge by present-day writings, the existence of such a law and of the experimental grounds on which it firmly rests is not so well known as one would expect it to be. Opinions are given daily, and so-called scientific contributions are prepared which ignore the fact as well as its medical implications. This is no doubt due to failure to keep abreast of the large number of experiments in this field of medicine and to the tendency of many writers to adopt too readily and to reproduce the plausible but unsound views of others without critical analysis. As an example of this tendency I should like to submit the case of the lymphocyte, which, of all the cells in the body, is by far the most sensitive to irradiation. The fact itself is well known, but its therapeutic implications are not commonly realized. Nowhere in the field of radiotherapy can a more instructive example of the specific sensitiveness of cells be found.

THE LYMPHOCYTES AND IRRADIATION

For many years a multitude of inflammatory disorders have been subjected to roentgen and radium rays with more or less effect, but the mechanism of the action of the rays is still a subject for debate, probably because many radiologists are not so familiar as they might be with the experimental background of radiotherapy. Heineke (1903-1905) was one of the first to make a breach in the veil of obscurity which, until that time, had surrounded the action of irradiation on living cells. The most important result of his experiments on a large number of white mice, rats, guinea pigs, rabbits, and dogs was to bring to light the exceptional sensitiveness of lymphocytes to roentgen rays and radium. He found that, when the entire body of animals of different species was exposed to large doses of one or the other form of radiant energy, the animals invariably died after an interval which varied according to the dose of rays and the size and age of the animals. But regardless of the ability of the animals to tolerate irradiation, he observed at necropsy that, although most of the organs were free from perceptible abnormality, the spleen, mesenteric nodes and other lymph nodes, and intestinal lymph follicles showed marked destruction of lymphocytes, and the degree of cellular disintegration varied according to the dose of

rays and the interval between irradiation and microscopic examination. As the number of intact lymphocytes diminished the stroma became more and more prominent. The lymphocytic degeneration in the spleen and lymph nodes was often so great that most of the malpighian corpuscles or lymphoid follicles disappeared as such and could be recognized only by the blood vessels and by the concentric arrangement of the stroma of these structures. The destruction of lymphocytes was found to begin about two hours after irradiation and to be characterized by disorganization and fragmentation of the nuclear chromatin of the cells, scattering of the fragments of chromatin between the remaining intact cells and in the spaces of the reticular stroma, where the fragments gathered into clumps or balls. The result was almost complete destruction of the lymphoid tissue in about twenty-four hours, and this was accompanied and followed by progressive reduction in volume or atrophy of the affected structures. Then the clumps or balls of degenerate chromatin were gradually taken up by some of the reticular cells, which thus assumed a phagocytic property and swelled as the amount of ingested chromatin debris increased. The same changes were observed in the spleen, mesenteric lymph nodes, solitary follicles of the intestine, in the lymphoid tissue of the vermiform appendix, and even in the bone marrow. The pathologic changes were greatest in the germinal center of the lymphoid follicles, whence they extended toward the periphery.

The phagocytic disposal of the degenerate nuclear chromatin continued until the lymphocytes in the follicles were largely destroyed, but a small percentage of these cells appeared to resist the action of the rays. After a number of hours the phagocytic reticular cells themselves began to disappear; the chromatin debris ingested by the phagocytes appeared to undergo intracellular digestion, because the number and size of the ingested fragments diminished steadily. All that remained after the phagocytes had disappeared was the connective tissue framework, the blood vessels, and a number of round cells with a bright nucleus. Soon after the beginning of lymphocytic disintegration, cells three or four times larger than lymphocytes, with a large, eosinophilic body of protoplasm and a large, oval or round, vesicle-shaped nucleus appeared in the germinal center. As the destruction of lymphocytes progressed these epithelioid cells formed large clumps, gradually assumed a concentric arrangement and formed structures suggesting epithelial pearls. This process continued for several days, when the concentric, epithelioid structures diminished in size, and the appearance of the cells gradually approximated that of ordinary connective tissue cells, and finally disappeared. Two or three days after exposure to roentgen rays, degenerative alteration of other cells, notably the polymorphonuclear leukocytes and eosinophils, also became perceptible, and many of these cells disappeared

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from the splenic pulp and bone marrow. The degree of lymphocytic destruction appeared proportional to the length of exposure to the rays, and Heineke attributed the difference in degree of the tissue changes noted to variation in the focal-skin distance and in the thickness of the intervening tissues. In other animals irradiated for varying periods and examined from ten days to three weeks later, more or less regeneration of the lymphoid tissue was observed.

The action of irradiation on the lymphocytes and on lymphoid tissues in general has been fully confirmed by many subsequent experimenters, among whom may be mentioned Warthin (1906), Krause and Ziegler (1906-1907), Fromme (1917), Hall and Whipple (1919), Hartman (1920), Warren and Whipple (1922), Jolly (1924), Tsuzuki (1926), and Piepenborn (1929). Similar effects were obtained with radium by London (1903), Heineke (1904), London (1905), Thies (1905), and Lazarus-Barlow (1922). Warthin's description of the effect of roentgen rays on the lymphoid structures corroborates the observations of Heineke, except that, by examining the tissues soon after irradiation, Warthin found unmistakable evidence of the disintegration of lymphocytes within fifteen minutes after exposure of the animals to the rays, and the cellular degeneration continued for several days. Rudberg, Aubertin and Bordet, Arella, Regaud and Crémieu, and many others, have likewise shown that roentgen and radium rays exert precisely the same influence on the small round cells of the thymus gland, and their work strongly supports Hammar's conclusion that the small cells of the thymus gland are indeed lymphocytes. Others, notably Senn (1903), Heineke (1903, 1905), Guilloz and Spillmann (1904), Aubertin and Beaujard (1904, 1905, 1908), Brown (1904), Bryant and Crane (1904), Capps and Smith (1904), Helber and Linser (1905), Russ (1919, 1921), Leitch (1921), Aubertin and Delamarre (1908), Benjamin, von Reuss, Sluka and Schwartz (1906), and Taylor, Witherbee and Murphy (1919), have proved that the lymphocytes in the circulating blood are equally sensitive to irradiation and that they also are destroyed in large numbers by exposure to roentgen or radium rays.

APPLICATION OF FACTS TO CLINICAL RADIOTHERAPY

How may these facts be applied to clinical radiotherapy, and how closely does clinical radiotherapy correspond to the experimental data? It has long been known that many acute and chronic, suppurative or nonsuppurative, inflammatory conditions are readily amenable to irradiation, and in some of these conditions roentgen-ray or radium treatment has been found to be the therapeutic method of choice. As examples, I might mention furuncle, carbuncle, delayed resolution in pneumonia, trachoma, erysipelas, and parotitis. Many other pathologic lesions of inflammatory character might be added to the list, but those

mentioned are sufficient to bring out the relation between the effect of irradiation on such lesions and the specific sensitiveness of lymphocytes.

FURUNCLE AND CARBUNCLE

Coyle (1906), Dunham (1916), Carp (1928), and others, have established the fact that acute inflammation of this kind, especially when treated during the stage of maximal leukocytic infiltration, which is to say before the stage of frank suppuration, often responds remarkably well to irradiation. In many cases the pain disappears within a few hours, and the redness and swelling subside rapidly after suitable exposure to irradiation. Coyle reported three cases of carbuncle in which exposure to roentgen rays was followed almost immediately by relief from pain and in which the lesion healed in a few days without suppuration. Dunham (1916), at the suggestion of Wainwright, treated sixty-seven carbuncles, giving a full therapeutic dose of rays generated at a potential equivalent to a spark-gap of nine inches, filtered through three millimeters of aluminium, at a focal-skin distance of eight inches, for thirty-five milliamperes minutes (more than ten Kienböck units). Pain sometimes increased during the first twelve hours, but ceased within forty-eight hours. The lesions then softened as the result of suppuration and drainage through a small incision, or suppuration did not occur. The results were so satisfactory that Dunham was moved to state that "nothing in all radiotherapy gives such positive and uniformly perfect results as the treatment of a carbuncle." Carp (1927) successfully treated with roentgen rays twelve patients suffering from nondiabetic carbuncle. Nine other patients apparently had to be operated on, and one patient died. Inasmuch as several methods of treatment had been used in many cases, Carp was not certain to which method the result should be credited. He concluded that radical operation is preferable in large carbuncles, whether the patient is diabetic or nondiabetic, but that in other carbuncles treatment by roentgen ray yields good results. The treatment is not uniformly successful, however, and this is probably due to factors within the lesions; these will be considered later. Treatment during the suppurative stage is less successful and its effect usually is less striking, but even then it is often of distinct value.

PNEUMONIA

Musser and Edsall (1905), impressed by the remarkable metabolic changes they had found in patients with leukemia treated with roentgen rays, suggested the possible advantage of such treatment for unresolved pneumonia. They reported one case in which irradiation was followed by rapid resolution and improvement, but stressed the point that such an effect could not be expected after organization had occurred. Edsall and Pemberton (1906), described three additional cases of delayed pneumonic resolution, in which moderate irradiation of the lungs promptly initi-

ated resolution, with correspondingly striking subsidence of the clinical manifestations. They held that the treatment could not be effective after organization of the pneumonic exudate, and they considered active, continued inflammation, with fever and toxemia, and tuberculosis as contraindications. At that time ferments occupied an excessively prominent place in biologic and medical thought, and Edsall and Pemberton expressed the idea that the rays act on the pneumonic process by accelerating the action of ferments and stimulating autolysis, but they admitted the "widespread and excited tendency to give ferments a more important place than is their due." For some reason the influence of roentgen rays on delayed resolution in pneumonia, revealed by such well-known clinicians, remained unutilized for ten years, when Quimby and Quimby (1916) confirmed the experience of Musser, Edsall, and Pemberton in twelve cases, four of which were described in detail. Although resolution had been delayed for some time, it progressed rapidly after roentgen irradiation of the lungs, and the patients promptly recovered. So gratifying were the results that Quimby and Quimby were prompted to state that "no pathologic process in the body responds quicker to an x-ray exposure than the nonresolution following pneumonia," and they attributed this effect to destruction of leukocytes infiltrating the lungs. Krost (1925) supplemented the foregoing reports by adding twelve other cases, in ten of which a single exposure of the thorax to roentgen rays of rather long wavelength for five minutes led to improvement in the symptoms and rapid recovery. Krost expressed the belief that irradiation stimulated phagocytosis. Additional evidence of the resolving action of roentgen rays on pneumonic exudates was furnished by Torrey (1927) and others.

Heidenhain (1927) claimed that small doses of roentgen rays also had a favorable influence on postoperative pneumonia and recorded forty-eight cases, in more than 80 per cent of which the course of the disease was said to have been shortened. He obtained equally favorable results in more than half of twenty-four cases of pneumonia unrelated to surgical intervention. Other favorable testimony was furnished by Heidenhain and Fried (1924), Kaess (1925), Fried (1926), Holzknecht (1926), Gadjanski (1927), Glas (1927), Fried (1928), Holst (1929), Merritt and McPeak (1930), and others. Hell (1929) was not so successful. Success attended treatment in only three of twenty-four cases, but the data furnished are insufficient to explain failure in the other cases.

As has been mentioned, Musser and Edsall, and Edsall and Pemberton thought the action of roentgen rays on delayed resolution was to stimulate autolysis by increasing the activity of the ferments. Quimby and Quimby ascribed the influence of irradiation on resolution to destruction of the infiltrating leukocytes. Krost held that the rays stimulated phagocytosis. These various interpretations appear more divergent than they

really are. Although proof is lacking, it seems probable that the activation in ferment action and autolysis invoked by Musser, Edsall, and Pemberton, the destruction of infiltrating leukocytes mentioned by Quimby and Quimby, and by Pordo, and the increase in phagocytosis referred to by Krost, represent only different phases of the same effect. Experimental evidence of the great susceptibility of the leukocytes, especially the lymphocytes, to irradiation has been presented. The destruction of large numbers of such cells soon after moderate irradiation and the phagocytosis of the nuclear debris of the destroyed cells has been described. This undoubtedly explains the increase in phagocytosis and autolysis, and the failure of irradiation after the onset of organization.

TRACHOMA

Mayou (1902) called attention to the value of radiotherapy in trachoma by reporting the instance of a girl, aged fourteen years, with bilateral trachoma and thick, fleshy pannus in both eyes; the left eye was completely cured after twenty-two three-minute exposures to soft roentgen rays. The right eye, treated with a solution of copper sulphate, improved much less in the same time, but eight exposures to roentgen rays completed the cure of this eye also. Mayou (1903) recorded the cases of fifteen other patients treated with roentgen rays; nine were influenced favorably, and five of these were permanently cured. The others had recurrences or were still under treatment. Mayou thought the effect on the lesions was due to leukocytosis induced by the rays. Stephenson and Walsh (1903) also described two cases of trachoma cured by roentgen-ray treatment. Additional evidence of the potency of irradiation in trachoma was furnished by Bettremieux (1903), Cassidy and Rayne (1903), Geyser (1903-1904), Goldzieher (1904), Pordo (1904), Newcomet and Krall (1904), Vasyutinski (1904), Horniker and Romanin (1905), Stargardt (1905), Thielemann (1905), Kassabian (1906), Coleman (1907), Stargardt (1912), Jacqueau, Lemoine, and Arcelin (1920), Rollet and Bussy (1920), Cochard (1921), Meldolesi and Sabbadini (1923), Meldolesi (1924), Lane (1924), Sabbadini (1926), and others. In some of the cases in which the condition was reported as cured the trachomatous manifestations recurred, but many other patients remained free from disease, either permanently or for a long time. Cochard (1921) was able to cure two patients permanently and to bring about marked improvement of six others, but some of these had recurrences later. Resumption of treatment, however, was again followed by rapid decrease and disappearance of the granules, and this led Cochard to the probably sound conclusion that the initial treatment had not been sufficiently thorough or had not been continued long enough. In only two of the eleven cases included in his thesis did the treatment fail to benefit the patient, and in these the disease had been of long standing and was associated with advanced sclerosis.

Harman (1905) apparently was the only observer to report failure to influence trachoma by roentgen rays. It is permissible to surmise, therefore, that his technique may have been faulty. Terrien (1919) stated that irradiation caused the lymphoid hyperplasia to retrogress and the granulations to disappear, but that recurrence was the rule. Derby (1924) also wrote disparagingly of the value of roentgen-ray treatment in trachoma; his opinion was not based on personal experience, but on a cursory and incomplete review of the literature. It is impossible to read the communications of Thielemann (1905), Cochard (1921), and Sabbadini (1926), to mention only these three, without being convinced that roentgen rays have a real and substantial effect on the lesions of trachoma. This effect appears to be greatest in the early stages of the granular form of the disease; irradiation has little, if any, effect when the inflammation has been present a long time and the lymphoid granulations have been replaced by connective tissue sclerosis.

Beck (1905), Cohn (1905), Falta (1905), Horniker and Romanin (1905), and Zelenkowski (1906) testified that radium also caused the lesions of trachoma to retrogress rapidly, but many of these early records were not explicit with reference to permanency of cure or duration of improvement. Birch-Hirschfeld (1905) also reported improvement in ten cases, but in nine the disease recurred. Esdra (1906), Fortunati and Esdra (1908), and Flemming (1913) noted cure or improvement in some cases, but in the majority of cases it was impossible to be certain that radium was responsible for the slight amelioration in the condition of the patients. Although the foregoing reports do not furnish sufficient information for analysis, the impression is derived that failure to obtain more substantial results may have been due to inadequate treatment or faulty technique. This impression is strengthened by a review of the communications of Zelenkowski (1906), Jacoby (1906), Kardo-Sisoyeff (1906), Dinger (1906), Neuschuler and Steiner (1906), Thibault (1906), Norton (1907), Zelenkowski (1908), Muller and Högler (1922), Sallmann (1923), Wassing (1923), Lane (1924), and others.

All the foregoing reports, except that of Harman, concur in showing that exposure to roentgen or radium rays causes the trachomatous granules to diminish rapidly in size and number and to disappear, and this is accompanied by early relief from pain and improvement in the other symptoms. Zelenkowski appears to have been the first to ascribe this influence of irradiation on the lesions of trachoma to the destructive action of the rays on the lymphocytes which are such an important element of the granulations, but it remained for Sabbadini (1926), whose communications are probably the best on the subject, to prove that irradiation causes the lymphoid elements and granulomatous papillae to disappear and to be replaced by young connective tissue, and the epithelium to regenerate.

ERYSIPELAS

During the last few years it has been found that this disease, also, when it does not complicate conditions such as diabetes or nephritis, often responds well to radiotherapy. This is especially true in adult patients when the treatment is given early. For some reason children, on the whole, do not receive so much benefit. On adults and on some children, however, the effect of moderate irradiation is to cause the fever to abate in from twelve to twenty-four or thirty-six hours and the disease to stop spreading and to recede gradually. In some cases, after a variable period of improvement or complete disappearance of clinical manifestations, the disease may recur, and renewal of treatment in such cases may prove less effective than in the first instances. By moderate irradiation is meant exposure of the affected area or region to from one-third to two-thirds of an erythema dose of roentgen rays of medium wavelength, generated at a potential equivalent to a sphere-gap tension of from 120 to 140 kilovolts, and filtered through four millimeters of aluminium. An apparently important point is that the treatment should not be limited to the visible part of the lesions, but should extend into the adjacent normal tissues well beyond the perceptible limits of the involved territory.

The mechanism by which the rays exert their beneficial influence in this disease has not yet been clearly established, but the significance of lymphocytes in the defense of the organism against infection and the known sensitiveness of these cells to irradiation make it appear likely that, in this condition, as in so many other inflammatory processes, the rays act by destroying lymphocytes infiltrating the lesion or circulating in the blood vessels which supply the affected area. In favor of this view is the rapidity with which the symptoms often abate and the physical signs disappear after exposure to a small or moderate dose of roentgen rays. This in itself points to destruction of lymphocytes as at least the primary and direct result of irradiation, because the lymphocytes are the only cells in the body, except the basal epithelium of the salivary glands, which react to irradiation at a rate which even approaches this rate. The indirect consequences of such destruction and their therapeutic implications will be considered. Also variation in the degree of leukocytic infiltration in different cases may explain the partial or complete failure of irradiation in some cases.

PAROTITIS

Acute parotitis has long been a sinister complication of certain surgical operations. Its incidence is low in general operations, but is high in operations on the large intestine. Rankin and Palmer have found that the disease is from fifteen to twenty times more common after surgical interventions on the colon than after all other operations; it occurred after approximately one of 150 operations on the large bowel. The mortality, as reported by various observers, ranged

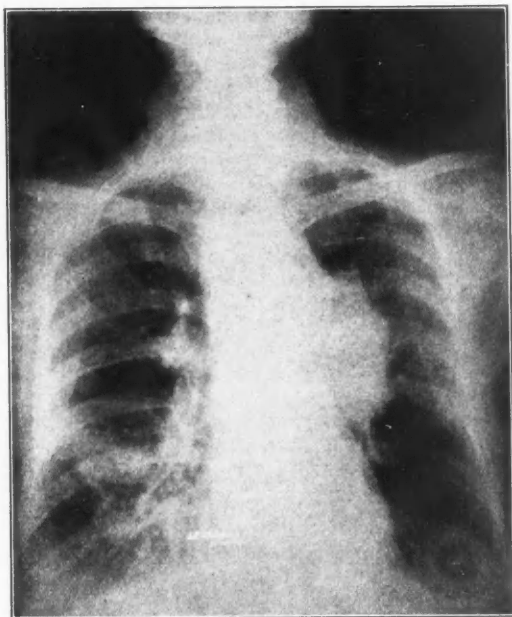


Fig. 1.—Large mediastinal tumor before treatment.

between 35 and 60 per cent, and according to Rankin and Palmer depends on the primary condition, the extent and severity of the operation, and on suppuration of one or both parotid glands. When they tested the therapeutic effect of moderate doses of radium applied soon after the onset of the parotitis (infiltrative stage) they found that the inflammatory process abated in most cases within from twenty-four to forty-eight hours, that suppuration was prevented, and that the mortality was correspondingly reduced. After treatment by radium, suppuration was only one-tenth as frequent as after ordinary methods of treatment as reported by others. These conclusions were based on twenty cases, in only two of which surgical drainage had to be instituted.

During the last two years a few such cases have also been treated with roentgen rays, with equally encouraging results. This seems to furnish another example of the property of radiation to influence favorably many varieties of inflammation. An interesting feature of the reaction of acute parotitis to irradiation is that the effect is much the same and becomes perceptible at about the same time after exposure as other acute inflammatory processes. There is reason to believe, therefore, that the mechanism involved is essentially the same.

MODE OF ACTION OF IRRADIATION

The natural tendency would be to think that the effect of the rays on acute inflammatory lesions may be due to a bactericidal action on the infecting organisms, but the almost constantly negative results of the large number of experiments undertaken to test the influence of irradiation on many kinds of bacteria renders such an

explanation untenable. The experiments on animals previously described have shown that leukocytes, especially the lymphocytes in the spleen; in the mesenteric and other lymph nodes, in the intestinal lymph follicles, and even in the lymphoid tissue of the vermiform appendix and lungs, are exceptionally sensitive to roentgen or radium rays, and that a large number of such cells in the irradiated territory may be caused to disintegrate. The chief points to bear in mind are that the destructive action of the rays begins soon after exposure, although visible effects may not become perceptible for several days, and that a considerable degree of lymphocytic disintegration occurs even after a small dose of irradiation.

One of the earliest and most important steps in the natural defense of the organism against most infectious processes is leukocytic, and especially lymphocytic, infiltration around the site of infection. Therefore, when an inflammatory lesion is irradiated, destruction of the infiltrating lymphocytes is to be expected. But since leukocytic infiltration is such an important factor in the defense against infection, the question naturally arises of why the destruction of a large number of the lymphocytes infiltrating such lesions may not do more harm than good naturally arises. The only answer is that no one has yet submitted any evidence of such ill effect. Always the influence of irradiation has been favorable or the rays have failed to alter the course of the inflammatory process. When I first attempted to ascertain the therapeutic value of irradiation for lesions of this character this question was uppermost in my mind, and I carefully analyzed all the known

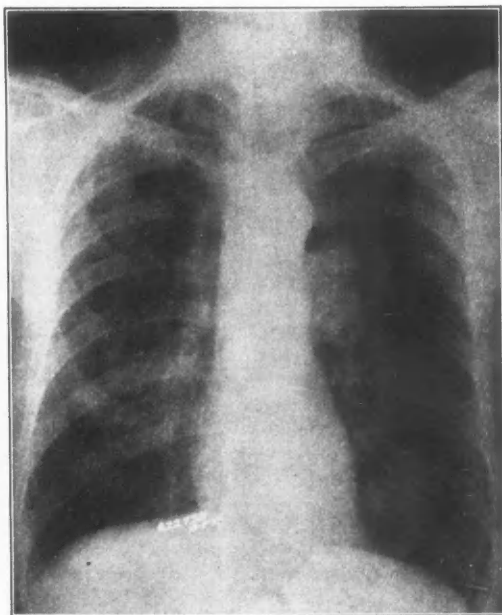


Fig. 2.—Patient represented in Figure 1 twenty-one days later and two weeks after a course of roentgen irradiation. Marked retrogression of the mediastinal tumor is shown.

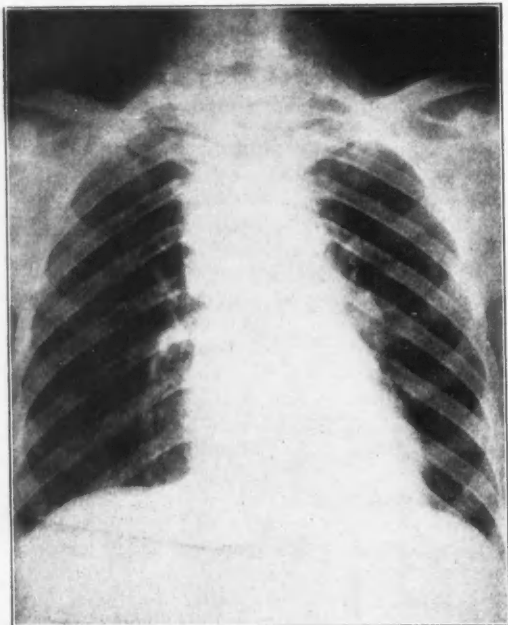


Fig. 3.—Large mediastinal tumor before treatment.

experimental and clinical facts. The first patients were treated with great caution. Now, after treating a large number of patients over a period of several years, I can testify that if, in some cases, radiotherapy remains without favorable effect, it has never had an unfavorable action. Moreover, in the majority of cases in which benefit has been derived it has been found that a small or moderate dose of rays of medium quality is sufficient to produce the desired results. Large doses of rays of short wavelength are not required and are indeed undesirable, probably because a smaller proportion of such rays is absorbed by the tissues at the level of the lesion.

How may such an apparent paradox be explained? After trying to correlate the experimental and clinical observations, I have formulated the following hypothesis which appears to harmonize with all the known facts. If it can be assumed that the leukocytes, and especially the lymphocytes, which the organism mobilizes around the site of infection represent an effort to localize the infection and to get rid of the infectious material by phagocytosis or otherwise, it must also be assumed that the infiltrating cells contain or elaborate within themselves the protective substances or other means which enable them to destroy or neutralize the bacterial or other toxic products which give rise to the defensive inflammation. If these assumptions are well founded, it seems not unreasonable to deduce that irradiation, by destroying the infiltrating lymphocytes, causes the protective substances contained by such cells to be liberated and to be made even more readily available for defensive purposes than they were in the intact cells. There can be little question that the rays act by destroying the

infiltrating leukocytes, and that the value of radiotherapy depends chiefly on such action. In favor of this view are the points already mentioned, namely, that the rapidity of recession of irradiated inflammatory lesions corresponds closely to the rate at which the normal lymphocytes are known to be influenced by exposure to the rays, and that a small or moderate dose of irradiation is sufficient or even preferable to a large dose. Other circumstances pointing in the same direction are that radiotherapy is most beneficial during the infiltrative stage and less beneficial during the suppurative stage (although some benefit may be derived) of the inflammatory process, and that, although many such lesions respond rapidly to treatment of this kind, some respond less rapidly or do not respond at all. In connection with the last point, variation in the degree of leukocytic infiltration of different lesions of the same character or of similar lesions of different character is a well-known pathologic fact. Therefore, it is at least permissible to believe, or even to expect, that the degree of leukocytic infiltration must influence the action of the rays, because the rays can destroy lymphocytes only in proportion to the number of such cells. This is undoubtedly related to and probably explains the fact that, although many inflammatory lesions are influenced favorably by irradiation, some react much less or fail to show any reaction.

LYMPHOID TUMORS

The significance of the specific sensitiveness of lymphocytes is as important in tumors arising in lymphoid organs and structures as in purely

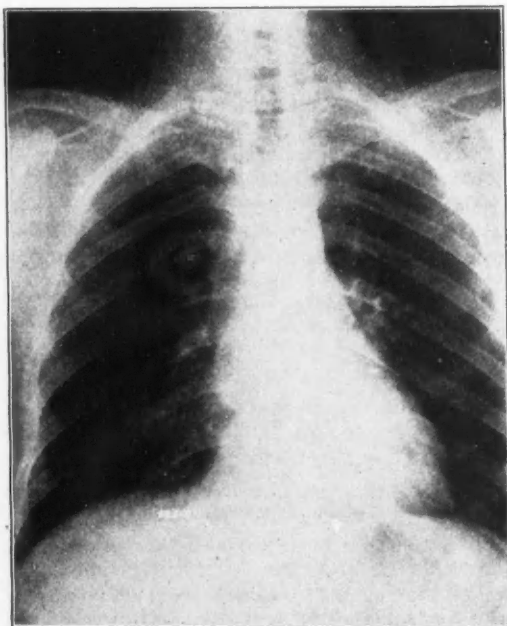


Fig. 4.—Patient represented in Figure 3 one month later and three weeks after a course of roentgen irradiation. Marked reduction in the size of the mediastinal tumor is shown.

inflammatory lesions. The unrestrained lymphocytic hyperplasia of lymph nodes which constitutes the chief characteristic of Hodgkin's disease, lymphosarcoma, and lymphatic leukemia, and of the spleen in myelogenous leukemia, provides the best example. The power of irradiation to cause such adenopathy to retrogress or actually to disappear for short or long periods has made radiotherapy the most satisfactory means of temporarily controlling the malignant tendency of such conditions. Here also it is found that the rate of regression of the adenopathy is precisely the rate at which normal lymphocytes are known to be destroyed by irradiation. This significant fact enables the experienced radiologist not only to improve the condition of the patient and relieve many distressing symptoms, but actually to distinguish the group of diseases or tumors collectively known as lymphoblastoma from all other tumors or conditions with which they might be confounded. The radiotherapeutic test is of distinct value whenever biopsy cannot be done or does not furnish conclusive information. In some cases, indeed, the radiotherapeutic test is more reliable than microscopic examination of sections of tissue. A diagnosis by the reaction of the hyperplastic lymphoid structures can almost always be made in from a few days to two or three weeks. The volume of the enlarged lymph nodes or spleen rapidly diminishes, and the clinical manifestations of pressure on other organs, blood vessels, or nerves, promptly abate. Pain of weeks' or months' standing is often relieved in two or three days. The very rapidity of action indicates that the disease condition is one affecting lymphoid structures. Figure 1 shows a large mediastinal tumor before treatment, and Figure 2 shows the mediastinum of the same patient three weeks after a single course of roentgen irradiation. Such rapid regression of a tumor in such a short time is characteristic of lymphoid tissue and corresponds with the rate of destruction of normal lymphocytes by irradiation. This is true regardless of the region involved. A carcinoma of the bronchus, esophagus, or lung never undergoes so great a change in such a relatively brief space of time; indeed, few intrathoracic carcinomas or sarcomas ever retrogress to such an extent, regardless of time. The different forms of lymphoblastoma, it is true, vary somewhat in radiosensitiveness, and a measure of variation also occurs among lymphoblastomas of the same kind, but such variation is almost never great enough to cause confusion. Figures 3 and 4 represent another example. The former shows a mediastinal tumor before treatment, and the latter the same mediastinum three weeks after a single course of roentgen irradiation. Such a degree of radiosensitiveness is so typical of lymphoid tissues and tumors in general that it constitutes a valuable therapeutic test and can render great service in the differential diagnosis of certain varieties of tumor. This is especially important when tissue cannot be removed for microscopic examination or when the patient refuses to sub-

mit to such a procedure. Indeed, when the clinical manifestations are not clearly defined or when, as in some cases of lymphoblastoma, a mediastinal or other tumor is not accompanied by palpable enlargement of the superficial lymph nodes, the reaction of the growth to irradiation may generally be depended on to make a sharp distinction between lymphoid growths and neoplasms of other derivation. Long experience has established the great reliability of such a radiotherapeutic test, which is being used daily to identify lymphoid tumors, as well as to exclude such processes.*

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* The complete list of 104 references will be found in the reprints.

UNEXPLAINED EOSINOPHILIA*

REPORT OF CASES

By A. B. STOCKTON, M. D.
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DISCUSSION by Ernest H. Falconer, M. D., San Francisco; and Charles L. Connor, M. D., San Francisco.

EOSINOPHILIA, a frequent clinical finding, is ascribed to many different causes. Physiological eosinophilia,² so-called, occurs after prolonged fasts, and after hemorrhage, or loss of hemoglobin in hemoglobinuria. In convalescence¹ from the acute evanthemata, eosinophilia is frequently observed. The average eosinophil count of individuals residing in tropical or subtropical climates is said to be nearer ten than the commonly accepted standard of three. Eosinophils seem to bear a relation to the functions of the glands of sex, as these cells are moderately increased after coitus and female castration, and during lactation, menopause, and the puerperium.

DRUGS WHICH INDUCE AN EOSINOPHILIA

Many different drugs induce an eosinophilia, and such an increase is observed after the administration of arsenic, nuclein, pilocarpin,³ camphor, dinitrobenzol, acetanilid, sodium solicylate, mercury, potassium iodid, and pituitary extract.⁵ Eosinophilia has been observed after poisoning with phosphorus and with carbon dioxide.⁴

The increase in eosinophils following infestation with animal parasites⁶ is well known. Parasites evoking such a response are the *Oxyuris*, *Ascaris*, *Echinococcus*, *Trichina*, *Uncinaria*, *Taeniae saginata* and *solium*, *Dibothriocephalus*, *Bilharzia* and *Filaria bancrofti*. Infestation with the *Leishmania*, *Trypanosome* or *Ameba* may or may not be accompanied by eosinophilia.

THEORY OF PHAGOCYTIC FUNCTION

Some authorities, notably Fiessinger and Mesnil, believe that eosinophils have an important phagocytic function, and protect the body particularly against toxins. Evidence favoring this theory is the eosinophilia observed in infants following the ingestion of a protein to which they are unaccustomed,⁷ and in adults the eosinophilia

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following ingestion of a protein to which the individual has become sensitized.⁸ Eosinophilia frequently occurs in food poisoning from spoiled meats.⁹ Injections of such foreign proteins as horse serum, egg albumen, and tuberculin may increase the number of these cells.

PATHOLOGIC CONDITIONS WHICH FAVOR EOSINOPHILIA

Among the acute infectious diseases eosinophilia usually occurs in scarlet fever.¹⁰ It is occasionally observed in other infectious diseases¹¹ following the injection of foreign protein in the form of antitoxic sera.

Many among the common skin diseases are characterized by the accompanying eosinophilia. The erythematous and pemphigus types, herpetic dermatitis and bullous dermatitis are particularly notable in this respect. Eosinophilia is also of frequent occurrence in prurigo, psoriasis, scabies, herpes iris, mycosis fungoides, traumatic effusions and exudates. It is occasionally observed in eczema.

In certain diseases associated with the phenomenon of anaphylaxis an eosinophil increase is almost constant. Asthma,¹² hay fever, Quincke's edema and serum sickness are representatives of this group.

Eosinophilia is observed in dyscrasias of the blood. Donald and Shaw,¹⁴ Schmidt and Weyland,¹³ and Griffin⁵ have described a form of leukemia characterized by generalized lymphadenopathy, marked splenomegaly, anasarca, and eosinophilic leukocytosis. The eosinophils are frequently increased during the febrile stage of Hodgkin's disease and in malaria. Beifeld and Barnes¹⁶ describe an anemia resembling primary anemia with an eosinophil count of 47 per cent.

The list of miscellaneous conditions sometimes associated with eosinophilia includes almost all of the known diseases. Among the commoner conditions in which eosinophilia may occur are muscular rheumatism,¹⁶ chronic arthritis,¹⁷ otitis media,¹⁸ pleural effusion,¹⁹ cancer,^{20 21} migraine,²² leprosy, rheumatic fever, chronic pulmonary disease, chronic cardiovascular-renal disease, prostatic hypertrophy,²³ tertiary syphilis, chorea,²⁴ paratyphoid fever, and even dementia praecox.

A case of constitutional eosinophilia in an otherwise healthy man has been reported by Cirio.²⁵ In this instance the eosinophils comprised 66 per cent of the differential count. Two of the patient's children and his brother all showed an increase in eosinophils between 6 and 15 per cent.

IDIOPATHIC EOSINOPHILIA

Occasionally an eosinophilia is encountered for which no cause is apparent even after extensive clinical investigation. Amberg²⁶ in 1913 reported such a case, and in 1925 Boekelman²⁷ described seven cases of intense eosinophilia for which no cause was demonstrable. It is this latter form of eosinophilia with which this paper is chiefly concerned.

THE RÔLE OF THE EOSINOPHIL

Since it was first described in 1846 by Wharton Jones,²⁸ and named in 1878 by Ehrlich, no definite rôle in the bodily economy has been assigned to the eosinophil. There is still much disagreement as to the place of origin of this cell. Whether, as claimed by Weidenreich²⁹ and by Adertscher, the eosinophil is simply a lymphocyte with ingested particles of erythrocytes visible within its transparent protoplasmic paunch; whether, as Griffin believes, eosinophils are undifferentiated mononuclear cells originating in the bone marrow and lymphoid tissue; or whether eosinophil granules are amorphous deposits of Charcot-Leyden crystals, as advanced by Liebreich,³⁰ is still a question under discussion. Sabin³¹ states that all granulocytes originate from a common parent cell in the bone marrow.

The function of the eosinophil is more obscure than its origin. Liebreich³² believes that the same factors preventing the coagulation of blood also prevent the appearance of eosinophils and Charcot-Leyden crystals.³³ Weinberg, Seguin, and Mesnil think the cells have an important phagocytic function, and Lepsky believes that this phagocytic property is concerned chiefly with the removal of toxins from the body. Opie and Schwarz, finding an increased number of eosinophils present in the blood after a meal, conclude that the eosinophil is intimately related in some way to digestion, either conveying a secretory hormone to the intestinal glands, or carrying away a digested food material from the intestine. Falta is determined in his conviction that eosinophilia follows increased tonus of the parasympathetic nervous system, and cites as evidence the increase in eosinophils following medication with pilocarpin. Klinkert^{1 34} supports this view, and as proof of the connection between the overactivity of the vagus system and the immunity mechanism of the body emphasizes postfebrile bradycardia and eosinophilia of convalescence. Mays and Moncorps³⁵ have demonstrated a relationship between the spleen and eosinophil content of the blood. Splenectomized guinea pigs showed first a decrease, and later a subsequent slow rise in eosinophils. Protein-free extracts of spleen injected into patients with itching dermatoses resulted in a diminution of the pruritus, and a fall in the eosinophil count.

REPORT OF CASES

The following case reports may prove interesting because of the definite eosinophilia for which no causative factor could be found.

CASE I.—O. L., male, age fifty, German, machinist. The patient was first seen in December 1928, when he complained of dull epigastric burning, headache, and constipation of five days' duration. Physical examination was negative except for a palpable right epitrochlear gland. The urine showed five to ten pus cells per high power field. The Wassermann was negative.

Four days after the first visit the patient returned complaining of insomnia, weakness, and fever. He

was admitted to the hospital with a temperature of 39 C. (102.2 F.). A blood count showed 4,620,000 erythrocytes, 18,250 leukocytes, and a differential count of polymorphonuclear leukocytes 86 per cent, and lymphocytes 14 per cent. Complete Röntgenographic studies which included a gastro-intestinal series, a chest plate, and a flat plate of the urinary tract revealed no disease.

After a seven-day hospital stay the patient was dismissed without a definite diagnosis having been made. A slight pyuria persisted, and he still complained of night sweats. A genito-urinary examination proved the pyuria to be originating from an old prostatitis. On January 2 a blood count showed 18,600 leukocytes, 75 per cent polymorphonuclears, 23 per cent lymphocytes, and 2 per cent eosinophils. A blood count on January 14 still demonstrated a leukocytosis of 21,190, and a differential of 81 per cent polymorphonuclears, 18 per cent lymphocytes, and one per cent eosinophils.

On January 24, the symptoms persisting, the patient reentered the hospital. The temperature was normal, and the only new physical finding was a palpable liver edge which extended two finger-breadths below the costal margin. Blood cultures, repeated stool examinations, and spinal fluid were negative. The Van den Bergh and icterus index were normal. The pyuria had practically disappeared. The blood, however, showed 17,850 leukocytes with 25 per cent polymorphonuclear leukocytes, 20 per cent lymphocytes, 52 per cent eosinophils, and 2 per cent basophils. On February 9 the leukocytes numbered 16,150, with 32 per cent eosinophils. A count on February 23 showed 9950 leukocytes and 25 per cent eosinophils. A biopsy of the enlarged epitrochlear gland revealed only hyperplastic lymphatic tissue with an increased eosinophilic infiltration which was most marked near the blood sinuses.

The patient was seen again on March 20. At this time he had returned to work, and felt quite well. A blood count showed 8200 white cells, 35 per cent polymorphonuclear leukocytes, 54 per cent lymphocytes, and 11 per cent eosinophils. He was last seen on September 20, when the blood count was entirely normal.

CASE 2.—J. B., male, age thirty-one, Italian, laborer. The patient was first seen in September 1923, when he came to the clinic seeking relief from a chronic cough of three months' duration. Aside from the drainage of an appendiceal abscess five years previous, the past history was unimportant. Physical examination revealed a few indeterminate crackles over the apex of the left lung, but an x-ray of the chest was negative. Upon using a simple cough mixture the patient recovered.

In August 1927 the patient entered the hospital for the drainage of a prostatic abscess. A blood count at this time showed normal erythrocytes and hemoglobin. A leukocytosis of 15,400 was present; the differential showed: polymorphonuclear leukocytes, 78 per cent; lymphocytes, 20 per cent; and eosinophils, 2 per cent.

From this time until October 1928 the patient attended the genito-urinary clinic for the treatment of a chronic prostatitis, gonorrheal in etiology.

In January 1929 the patient returned to the medical clinic complaining of gaseous eructations and epigastric burning pain, coming a half hour after meals and relieved by food. A gastro-intestinal series and a test-meal proved normal, although the patient received much relief from the thirty to sixty-day Sippy regimen.

In May 1929 the abdominal pain had subsided, but he had developed a dull continuous pain in the right anterior chest which radiated through the body to the right scapula. He had two or three soft bowel movements daily. The only findings made on physical examination were a few shotty posterior cervical glands, and a small node in the left axilla. The Wassermann was negative. Repeated stool examinations, an x-ray of the chest, proctoscopic examination, and the outline of the colon following an opaque enema were all negative. The only unusual findings were in the blood, which showed: 17,350 leukocytes, 45 per cent polymorphonuclear leukocytes, 24 per cent lymphocytes, and 31 per cent eosinophils.

Upon leaving the hospital the patient attended the clinic for three weeks, and at the end of this time he felt sufficiently recovered to return to work although the blood count still showed 14,400 leukocytes with a differential of 31 per cent polymorphonuclear leukocytes, 21 per cent lymphocytes, 2 per cent transitionals, and 46 per cent eosinophils.

CASE 3.—L. A., male, age thirty-two, Italian, laborer. This patient first attended the clinic in 1925, when a diagnosis of chronic prostatitis was made. In October 1927 the patient entered the hospital complaining of pain in the right lower quadrant of the abdomen at the site of a recurrent inguinal hernia. This lower abdominal pain was burning in character, and was aggravated by eating. The patient's bowels were loose, and moved five to six times a day. No abnormal physical findings other than the hernia were made out. The urine, the gastric contents, and a gastro-intestinal series were negative. Repeated stool examinations showed no parasites. The basal metabolism was plus four. Proctoscopic examination was negative. Blood counts were as in Table 1.

The patient was dismissed from the hospital suspected of a chronic inflammatory process in the lower abdomen. He continued to have pain and tenderness in the right lower quadrant, and in November 1927 he reentered the hospital for repair of the inguinal hernia. An appendectomy was done through the herniotomy incision. Histologically the appendix showed some fibrosis in the submucous and muscular layers. The lumen of the tip was obliterated for the distance of 0.6 centimeters.

Subsequent to the operation the patient was followed in the clinic. His complaints were relieved not at all following operation. The blood count on his last visit in August 1928 had returned to normal.

CASE 4.—B. P., male, age forty, Greek, waiter. This patient had been observed during the course of four years. His complaints were always those of weakness, easy fatigability, and dyspepsia characterized by ano-

TABLE 1.—Blood Counts in Case 3

Date	Erythrocytes	Hemoglobin	W. B. C.	Polys.	Lymph.	Eosin.	Baso.	Trans.
10/14/27	4,480,000	83	7,650	67	20	11		2
10/15/27	4,670,000	85	8,400	59	25	24		
11/2/27	4,640,000	90	9,450	37	38	20	1	3
11/6/27				56	29	15		
11/14/27		78	6,350	35	39	22		3
12/22/27	4,880,000	75	10,550	68	29	1	1	1
3/5/28	4,450,000	85	5,400	53	42	2		3

TABLE 2.—Blood Counts in Case 4

Date	Erythrocytes	Hemoglobin	W. B. C.	Polys.	Lymph.	Eosin.	Trans.	Baso.
5/1/29	5,455,000	108	7,200	46	42	9	3	
6/12/29	5,170,000	99	7,450	46	39	7	7	1
6/29/29	4,800,000	85	8,200	44	40	4	1	1

rexia, gas, constipation, and dull epigastric discomfort. At all times he exhibited a marked hypotension which varied from 98/70 to 75/55. At one time the possibility of Addison's disease had been considered. A very complete laboratory investigation failed to reveal any abnormalities. Clinical trial on such different medications as strychnin, ephedrin, digitalis, and atropin failed to give relief. Several consecutive blood counts revealed the following picture (Table 2):

CASE 5.—R. M., female, age forty-four, American, housewife. This patient's complaints were those associated with menopause. She suffered from hot flashes, nervousness, belching, epigastric heaviness, and constipation. Except for a moderate degree of obesity, physical examination disclosed nothing abnormal. The urine, Wassermann, and repeated stools were negative. The blood count showed: 4,800,000 erythrocytes, 80 per cent hemoglobin, 7800 leukocytes, 58 per cent polymorphonuclear leukocytes, 26 per cent lymphocytes, and 16 per cent eosinophils. The eosinophilia persisted for two weeks, and the count still numbered 14 per cent when the patient was last seen.

CASE 6.—M. H., female, age fifty-four, American, housewife. This patient who had been under observation for four years had at various times complained of constipation, and a dull pain in the left lower quadrant of the abdomen. On her first visit to the clinic a positive Wassermann had been discovered, and she had received four courses of neosphenamin and three of bismuth metal. Her blood Wassermann and spinal fluid had remained persistently negative for three years preceding her present illness.

In February 1928 she suffered an acute gastro-intestinal upset lasting one week, and characterized only by nausea and vomiting. In December 1929 she complained of a watery diarrhea, with five or six stools daily. There was no nausea and no abdominal pain. Examination was entirely negative. The abdomen was soft and not tender. Special examinations included urinalysis, proctoscopy, and gastro-intestinal x-rays. Repeated examinations of the stools revealed nothing other than Charcot-Leyden crystals. The blood picture is presented in Table 3.

While under observation there was no diarrhea. The patient was dismissed feeling perfectly well.

COMMENT

Six instances of unexplained eosinophilia are presented. All of the patients had vague dyspeptic symptoms. Five complained of epigastric unrest, with heaviness or burning pain. Four had been constipated, and four had had diarrhea, with as many as six watery stools daily. Three complained of "gas," and two suffered lower abdominal pain described as "cramping." In all six

patients no definite organic disease could be found even after extensive laboratory and x-ray investigation. Intestinal parasites were ruled out in each instance by painstaking and repeated stool examinations.

In the patients who were followed the eosinophilia persisted from three to sixteen weeks. Only Case 1 was acutely ill with fever and leukocytosis. Case 2 exhibited a marked leukocytosis, but was afebrile. All six patients recovered spontaneously, and without medication.

The outstanding symptom in all six patients was the dyspepsia, usually catalogued under the term of "nervous indigestion." This fact vaguely corroborates Opie and Falta in the assumption that the eosinophil may be concerned with the function of digestion. In the preceding patients, whether digestion was interrupted or whether it was perverted thus permitting the assimilation of foreign proteins from the intestine, is a matter for conjecture.

CONCLUSIONS

Present knowledge of the origin and function of the eosinophil is limited chiefly to theory. The appearance of eosinophilia in certain patients is frequently inexplicable on the basis of any clinical finding.

Six patients who had unexplained eosinophilia accompanied with vague dyspeptic symptoms are discussed. The eosinophilia varied between 9 and 52 per cent. All the patients recovered spontaneously.

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REFERENCES

1. Klinkert. Ztschr. f. klin. Med., 89, 156-177, 1920.
2. Schwarz. Ergebn. d. allg. Path., 17, 393, 1913.
3. Wile. New York State J. Med., 10, 4, 205, 1910.
4. Deglos. Lyon méd., 128, 5, 231, 1919.
5. Griffin. Am. J. M. Soc., 158, 618, 1919.
6. Page, Turner, and Wilson. J. Lab. and Clin. Med., 13, 1109, 1928.
7. Berger. Arch. Pediat., 33, 742, 1916.
8. Barnett. Arch. Int. Med., 19, 695, 1917.
9. French. Guy's Hosp. Gaz., 23, 533, 1909.
10. Markovitch and Gueratovich. Presse méd., 33, 205, 1925.
11. Hahn. Ztschr. f. Kinderl., 34, 3, 165, 1922.
12. Brown. J. Lab. and Clin. Med., 12, 1145, 1927.
13. Schmidt-Weyland. Med. Klin., 21, 1767, 1925.
14. Donald and Shaw. Brit. M. J., 2, 966, 1922.
15. Beifeld and Barnes. Bull. Johns Hopkins Hosp., 27, 181, 1916.

TABLE 3.—Blood Counts in Case 6

Date	Erythrocytes	Hemoglobin	W. B. C.	Polys.	Lymph.	Eosin.	Trans.
12/30/29	4,000,000	74	15,350	59	19	16	6
1/8/30	4,090,000	78	9,960	38	26	36	2
1/13/30			11,720	35	33	30	2

16. Symvoldt. München. med. Wchnschr., 67, 4, 98, 1920.
17. Spiro and Pfanner. Klin. Wchnschr., 3, 2279, 1924.
18. Brewer. J. Lab. and Clin. Med., 11, 865, 1926.
19. Binet. Am. J. M. Sc., 155, 579, 1918.
20. Pavlovsky and Widakowich. Semana Méd., 1, 1265, 1926.
21. Weiss. J. Lab. and Clin. Med., 11, 733, 1926.
22. Schmite. Medecine, 7, 227, 1925.
23. Cassuto. Policlinico, 28, 36, 1195, 1921.
24. Berger. Am. J. Dis. Child., 21, 477, 1921.
25. Cirio. Riforma Med., 42, 219, 1926.
26. Amberg. Med. Rec., 84, 849, 1913.
27. Böckelman. Nederl. Tijdschr. v. Geneesk., 1, 998, 1925.
28. Simon. Internat. Clin., 4, 278, 1906.
29. Lewis and Stöhr. Textbook of Histology. P. Blakiston's Son & Co., 1913.
30. Liebreich. Schweiz. med. Wchnschr., 51, 12, 1373, 1921.
31. Sabin. Physiol. Rev., 2, 38, 1922.
32. Liebreich. Klin. Wchnschr., 2, 5, 194, 1923.
33. Neumann. Klin. Wchnschr., 3, 1128, 1924.
34. Klinkert. Nederl. Tijdschr., v. Geneesk., 2, 2039, 1917.
35. Mays and Moncorps. München. med. Wchnschr., 72, 683, 1925.

DISCUSSION

ERNEST H. FALCONER, M. D. (316 Fitzhugh Building, San Francisco).—Doctor Stockton's paper is particularly interesting at this time, as we have just passed through an epidemic of trichinosis and our interest in eosinophilia has consequently been very much stimulated. There are several points brought out in this interesting paper which are worthy of comment, but I shall only refer to two or three, as the whole subject of eosinophilia is in a rather fluid state at the present time. Several investigators believe the eosinophils are not found in the bone marrow, but recent reports of eosinophilic leukemias suggest that probably if the bone marrow were studied in these cases the eosinophils would be found in the marrow tissue. At any rate the leukemias that we have knowledge of from pathological study all show a marked marrow proliferation of leukemic cells. Certain observers have felt that the acidophylic properties of the eosinophils came from ingested material such as muscle hemoglobin and other disintegrated tissue particles. It would seem possible to throw some light on this matter through studying the phagocytic properties of these cells, as has been done with other types of cells, especially the histiocytes. The cases described by Doctor Stockton call to mind two patients whom I have seen within the past three years. These patients had atypical pneumonias running a rather chronic course in which no other cause than the lung infection could be found for the eosinophils which in both cases exceeded 30 per cent of the total number of white cells. It is possible that each of these patients had a small amount of fluid in the pleural cavity.

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CHARLES L. CONNOR, M. D. (Third and Parnassus Avenues, San Francisco).—From the pathological standpoint we are just as much at sea about the significance of the eosinophil as the clinician is. We know in a general way with what conditions this cell is commonly found, but we do not know why it is present nor what it is doing there. It is associated usually with irritative, rather mild inflammatory reactions, such as a pinworm in the appendix or a mild nonspecific dermatitis. The cell is present in late, subsiding, or low-grade infectious (bacterial) processes. It is present normally in rather large numbers in the mucosa of the gastro-intestinal tract, and here, as Doctor Stockton has indicated, it may have something to do with digestion. I think the idea advanced by Doctor Stockton (and certainly suggested by his cases) that a gastro-intestinal irritation of some sort could be responsible for the eosinophilia is tenable. It is a good lead to follow in the study of further similar cases.

ALLERGIC TOXEMIA AND MIGRAINE DUE TO FOOD ALLERGY*

REPORT OF CASES

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DISCUSSION by V. G. Alderson, M. D., Oakland; Samuel H. Hurwitz, M. D., San Francisco; H. E. Henderson, M. D., Santa Barbara.

ALLERGIC toxemia due to food allergy has been reported by me¹ in previous articles and was also suggested by Laroche, Richet, and Saint Girons² in 1919. Though this condition is not uncommon, your attention is directed to it as a clinical entity which has not been described heretofore in the English literature. Along with this, I wish to again emphasize the frequency of migraine due to food allergy and to stress the occurrence of certain cases of neuralgia arising from the same cause. These conditions are not infrequently associated and they will be discussed together in this article.

ALLERGIC TOXEMIA DUE TO FOOD ALLERGY

Allergic toxemia due to food allergy has been recognized by me during the last three years as a marked condition in ten patients out of a series of three hundred and fifty patients who showed definite manifestations of food allergy. It has also occurred in a mild form in other patients suffering with food allergy whose records have not been included in this group. This toxemia produces drowsiness, mental confusion, slowness of thought, lack of initiative and ambition, irritability, despondency, fatigue, weakness, bodily aching, and a feeling of "being poisoned." These symptoms, as shown in Table 1, are usually associated with gastro-intestinal symptoms such as distention, abdominal distress or pain, constipation, mucous colitis, and at times nausea and vomiting. Heavy breath, coated tongue, and canker sores are not infrequent. Migraine or headache of varying degrees of severity is usually present and a sallow, muddy complexion and at times intermittent icterus may occur. Nasal congestion due to food allergy is frequent. These symptoms are exaggerated in certain patients by constipation. This has encouraged the daily use of physics or enemas in many sufferers because of the subjective relief obtained. Thus the old autointoxication in some cases may have been due to "allergic toxemia" due to food allergy.

The average age of the patients in this series was forty-five years. They were all adults with the exception of a girl of fifteen years. It would thus appear that this toxemia becomes especially evident in adult life, though it has probably been responsible for the marked irritability, incorrigibility, inanition and underdevelopment in a few children suffering with food sensitization whom I have studied during the last few years. As with other manifestations of food allergy, it occurs

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most often in women, and the family history usually shows the presence of allergy. The statistics show that, in this series, asthma was not present in any patient. Seasonal or perennial hay fever and cutaneous allergy were present in 50 per cent of the patients, migraine was present in 80 per cent of the subjects, and abdominal allergy occurred in every patient. It is interesting that only one patient recognized the presence of any food idiosyncrasies. Three patients had had nasal operations because of their symptoms and none had had abdominal operations, evidencing the nearly negative type of physical and laboratory examinations which characterized these patients. Skin tests with the cutaneous method were essentially negative. Two patients gave a few slight reactions to foods. These reactions, however, did not indicate all of the foods producing the symptoms, and treatment was carried out with my "elimination diets" modified according to the skin tests when such occurred. Roentgen-ray examinations of the gastro-intestinal tract were negative in seven patients except for slight duodenal stasis in one, hyperperistalsis which disappeared after symptoms were controlled by an elimination diet in another, and ptosis in a third. The stomach analysis of eight patients showed no deficiency of hydrochloric acid in any instance, and four gall-bladder studies after the oral ingestion of dye were normal. Patients usually suffer with this toxemia for many years and often give a history of constipation, indigestion or bilious headaches in the teens or even in childhood.

This allergic toxemia due to food allergy has its counterpart in that due to pollen sensitization which has been described by Kahn.³ Other causes of severe chronic allergy, such as marked animal emanation sensitization, produce profound disturbances in the physique and nourishment of the patients. But in my experience the marked toxemia met with in chronic food allergy in adults is not surpassed by that due to other sensitizations. The pathogenesis of this allergic toxemia is difficult to decide. There is probably a localized allergic edema in the liver with consequent disturbance in its important functions. When migraine and gastro-intestinal symptoms occur allergic reactions probably are present in the brain and in the gastro-intestinal tract. The profound symptoms of toxemia, however, would suggest a generalized effect in many organs and tissues of the entire organism.

The following case histories exemplify the characteristics of this allergic toxemia.

REPORT OF CASES

CASE 1.—A woman, age fifty-two, had been toxic, dull, exhausted, nervous, highstrung, and had ached all over her body for twenty years. Headaches had been present since childhood, occurring every one to two weeks. Indigestion since girlhood had produced distention, belching, and heart-burn for several years, and a severe pain to the left of the umbilicus had recurred every day or two. For seven years eczema had been present in the ears, and it had been present in her scalp all her life. Coryza after eating and bronchitis for many years had been constant.

Her mother had headaches. A daughter had asthma of thirty years' duration, controlled during the last year by my pollen and dietetic therapy.

Her physical, laboratory, and skin tests were all negative, and physicians had ascribed her symptoms to change of life.

On December 13 she was placed on elimination diet No. 1, with tapioca, grapefruit, artichoke, pineapple, apricot, and pear. On December 28 she stated she was feeling better than in years and that the dullness, headaches, toxicity, eczema, and nasal congestion had nearly disappeared. On January 29 one teaspoonful of milk had produced headache. On March 28 she reported her symptoms relieved and that her abdominal pain which had resisted for a long time was gone. She knew milk "was poison to her." Since then relief has continued except when she has broken her diet.

Comment.—Food allergy as the cause of the varied group of symptoms in this patient had never been suspected by the many physicians consulted or by the patient. It was suggested immediately to me because of her personal and family history of allergy and her many negative examinations.

CASE 2.—A man, age thirty-four, had had marked nervousness and recurrent right-sided migraine since the age of ten years, increasing during the last ten years. Great difficulty in remembering, concentrating, and thinking, associated with fatigue and weakness, had impaired his efficiency greatly. For a decade at least he had had severe recurrent abdominal pain just below the umbilicus, associated with gas in the bowels and rather constant nausea after nearly every meal. No other allergic manifestations were present. His brother had asthma, his mother a recurrent allergic bronchitis, and his maternal aunt had hay fever. Tonsillectomy, submucous resection, and openings of antrums for relief of headaches and toxemia had been without effect. Physical examination, laboratory tests including blood, urine, Wassermann, and stool analyses, a metabolic rate, and roentgen-ray studies of the sinuses and gastro-intestinal tract were all negative. Skin tests showed delayed reactions to wheat and a two plus reaction to beet. Intradermal tests were negative to milk and egg and delayed to wheat. Elimination diets 1, 2, and 3 completely controlled his symptoms without any other medication. His ambition and self-confidence has returned and no more fatigue, mental confusion and nervousness has existed for two years. His diet has gradually been increased though the exclusion of wheat, milk, and eggs has been necessary.

Comment.—Food allergy proved to be the sole cause of the toxic, mental, nervous, and digestive symptoms in this patient. The profound cerebral disturbances and typical migraine produced by food sensitization are illustrated. This case emphasizes the fact that many symptoms occurring in patients with negative physical and laboratory examinations who have a family history of allergy (though this may not be elicited in some cases) are due to food allergy and emphasize the importance of keeping such etiology continually in mind in all cases with obscure problems. The uselessness of nasal surgery in such cases is strongly evident in this record.

CASE 3.—A woman, age fifty-seven, has had sick headaches every few days all her life. Since she had restricted starches a few years ago they had been less frequent.

Constipation had always been present. Daily physicians had been necessary to ameliorate her nervousness,

depression, toxicity, poor memory and inability to concentrate. Sour stomach, soreness in epigastrium, and an aching over the liver with bilious attacks had occurred. For one year she had had a full throbbing sensation in the ears and an aching in the lower jaw and neck. Soreness in many joints had increased for ten years.

Cake, rich foods, and starches were known to give indigestion. Macaroni had produced immediate collapse at the table. Bananas always gave severe headaches. Milk ingestion had always resulted in diarrhea and cramping. Fifteen years ago a milk diet was persisted in for two weeks with severe results.

Hay fever had been present between the ages of twenty-seven and thirty years, hives occasionally in youth, and cracking of finger ends for eight years.

The family history revealed asthma and indigestion in one son and indigestion in two other sons and a daughter. All examinations and skin tests except to milk, chicken and duck feathers, goat hair, cottonseed and a few fall pollens were negative.

She has been on elimination diets 1, 2, and 3. Marvelous relief from constipation, indigestion, and aching in jaws and neck occurred in three days and this has continued for the last year. Wheat, milk, and eggs on various trials have been "poison to her." Various vegetables and fruits have been added.

Comment.—Food allergy existing throughout life was responsible for her toxemia, headaches, indigestion and the neuralgic pain in her jaws. The pain over her liver suggested a localized allergy in that organ. The collapse at the table was probably due to wheat and has been observed by me in an infant due to a like cause. Her milk sensitization was indicated by a one plus reaction, but the marked allergies to wheat, banana, and other foods were not associated with positive reactions, illustrating the value of elimination diets in diagnosis and treatment of food allergy.

CASE 4.—A woman, age forty-two, had had "intense toxemia" since the age of thirteen years. Frequent attacks of drowsiness, stupor, exhaustion, "heaviness all through the body as though she was poisoned," biliousness and at times nausea and vomiting for many hours had occurred and she had rarely been entirely free from some of these symptoms. Since the age of thirteen, she had known that the slightest trace of onion or garlic would produce this toxemia, lasting for several days. "A drop of onion sauce was as bad as a dishful," making it difficult to eat away from home. Milk had always produced immediate vomiting and eggs a marked gastric acidity. Green pepper, tomato, cucumber, and pimento affected her to a lesser degree, as did onion. Walnuts were poison to her. All her life she had had chronic winter colds which had resisted vaccine and local therapy. Several diagnostic studies in the past had been negative, and my physical, laboratory, roentgen-ray studies and skin tests were negative except for a one plus reaction to whole egg and egg white. Negative reactions to milk, onion, garlic, tomato, and walnut to which known sensitization existed emphasize the frequent occurrence of food allergy without skin reactions.

Elimination diets 1, 2, and 3, minus tomato, have produced complete control of all her toxic symptoms and her indigestion for a period of six months. For the first time in her memory she has been free from her chronic winter colds. On two occasions, in spite of care, she has taken food containing unsuspected traces of onion or garlic, resulting in discomfort in her stomach in twenty minutes, increasing exhaustion, vomiting in two hours, and a toxic feeling for several days. Cream tomato soup produced similar symptoms for five days. She is being desensitized to an onion-garlic extract because of their universal use in cooking.

Comment.—Though the patient knew her toxemia was due to definite foods, the importance of total exclusion had never occurred to her. This case emphasizes the occurrence of negative skin reactions in food allergy, the profound and varied symptoms which result from even a drop of food to which allergy exists and the fact that toxemia, mental confusion, indigestion, and nasal congestion may be due to localized reactions resulting from food sensitization.

MIGRAINE AND NEURALGIA DUE TO FOOD ALLERGY

That migraine may be due to food allergy has been reported by Vaughan,⁴ Brown,⁵ Rowe,¹ Bal-yeat,⁶ and Beecher.⁷ Nineteen cases have been reported by these writers in which therapy was based on skin reactions. Miller and Raulston⁸ and recently Ball have confirmed the reports of Pagneiz and his associates that peptone administered intravenously relieved migraine, thus indicating its allergic nature. They made no attempt to determine the causative types of allergy. In 1928¹ I reported forty-eight cases of migraine and in this article a total of eighty-six cases is included, due, in my opinion, to food allergy. This large number is able to be presented because of the recognition that food allergy in adults usually occurs without skin reactions as emphasized previously by Alexander⁹ and by myself, and because of the use of my elimination diets for the diagnosis and control of food sensitization.

As Liveing¹⁰ and, recently, Woltman¹¹ have emphasized, migraine includes those headaches which are not due to ascertainable pathology. It is usually inherited, may be mild or severe, unilateral or bilateral, and may or may not be associated with nausea or vomiting and allergic toxemia. Slight or marked visual disturbances, transient aphasia, amblyopia, paresthesia, paresis, convulsive seizures, and drowsiness may occur similar to those described by Foster Kennedy in patients afflicted with angioneurotic edema. Liveing, Brunton,¹² Brown,¹³ McClure and Hunt-singer,¹⁴ Diamond¹⁵ and others, have commented on the occurrence of icterus, swollen liver and other manifestations of liver dysfunctions which, in my opinion, are due to a probable allergic reaction in the liver itself similar to that which occurs in certain animals in experimental anaphylaxis. As recently reported by Richet and myself,¹⁶ neuralgia may be due to food allergy. Such neuralgia may occur in the neck, head, upper extremities and, as in two of my patients, in the lower back and legs. Trigeminal neuralgia may also be due to food allergy as suggested by Bas-soe²⁰ and illustrated in a recent patient in my own clinic who had received five alcoholic injections without relief.

In spite of the above evidence that food allergy is a frequent cause of migraine, physicians still hesitate to accept this etiology. This is due, in my mind, to the fact that skin reactions to foods are often absent or difficult to interpret. Thus Hartsock¹⁶ recently minimized food allergy as a cause of migraine, laying emphasis on duodenal

TABLE 1.—Occurrence of Associated Allergies, Food Idiosyncrasies, and Positive Skin Reactions in Ten Cases of Allergic Toxemia Due to Food Allergy

Cases	Male	Female	Age (Av.)	Posi- tive Family History	Associated Allergy				Surgery			Skin Tests						Stom- ach Ach- sis	X-ray of G. I. Tract	X-ray Gall- Bladder Dye
					Hay Fever or Nasal Con- ges- tion	Cuta- neous Allergy	Mi- graine	Abdom- inal Allergy	Food Dis- likes and agrec- ments	Nose and Throat	Abdom- inal	Food Alone	Total Food	Animal Emana- tions	Dusts	Pollens	Orris Root	Misc.		
10	2	8	45 (Av.)	7	5	5	8	10	3	3	0	2	2	1	0	0	0	0	7 ¹	8 ²

1. X-rays of the gastro-intestinal tracts were negative except for slight duodenal stasis in one patient, hyperperistalsis in spite of a normal stomach analysis in another and gastric and colonic ptosis in another.
2. All normal.
3. Function normal in all.

stasis and intestinal toxemia. Similar conclusions were arrived at by McClure and Huntsinger,¹⁴ Stevens,¹⁷ and others. In 1921 Brown¹⁸ reported good results from carbohydrate or protein restriction which I feel can best be explained on the basis of food sensitization.

The statistics on the eighty-six cases of migraine reported in this article are presented in Tables 2 and 3. Migraine as a severe and major complaint occurred in forty-six patients and as a definite complaint though less severe than some other associated allergic condition in forty patients. These migraines of minor degree are included to emphasize the occurrence of all types of this condition. Women predominated and a positive family history of allergy was the rule. This series included patients of an average age of 39.6 years, though, as Woltman¹¹ and others have pointed out, the migraine in these patients usually began in the teens or twenties. Asthma and hay fever occurred less frequently than did cutaneous and abdominal allergy.

Food dislikes or known disagreements occurred in 75 per cent of the patients, emphasizing

ing the importance of a detailed history. Food reactions were obtained in 24 per cent of the patients who failed to react to any other allergen and they occurred in 42 per cent of those patients who gave other types of reactions. But it must be stated that these figures merely indicate those patients who gave one or more reactions to foods. The absence of any reactions to foods in 58 per cent of the patients and the fact that few individuals reacted to any or all of the foods responsible for their migraine emphasizes the importance of diet trial and explains the good results I am able to report with the use of my elimination diets. The frequency of skin reactions to other types of allergens was below one per cent in each instance. Nasopharyngeal and abdominal surgery for relief of the headaches was done without help in 16 and 17 per cent of the patients respectively. In 41 per cent of the cases, stomach analyses were deemed advisable and in no instance was an achylia present. Gall-bladder studies were thought necessary in 17 per cent of the patients and normal filling and emptying of this organ was found in all. Gastro-intestinal roentgen-ray examinations were considered important for differential diagnosis in 53 per cent of the patients. Normal findings were obtained in all individuals except for a large dilated cap in one and moderate duodenal stasis in two others.

Migraine resulting from food allergy is probably due to a localized swelling or vascular spasm in the brain. Pain in some cases in the literature has been so severe as to suggest brain tumor, and exploration has revealed angioneurotic edema of the brain itself. Migraine has also occurred in patients with superficial angioneurotic edema. Such localized edemas would explain the transient amblyopia, aphasia, paresis, or paresthesia which have been described as complications of migraine for many decades. The nausea and vomiting which is associated with migraine may be due to central origin, or may be due to a localized concomitant allergic reaction in the liver or gastro-intestinal tract.

REPORT OF CASES

The following case histories illustrate the occurrence of migraine due to food sensitizations:

CASE 1.—A woman, age forty-five, had had severe headaches since she could remember. Eggs gave terrible headaches, chocolate a severe frontal or one-sided headache, bananas produced a jerking in her head, especially at night, and apples rested heavily on her stomach. Gravies and potato gave gas and discomfort with bodily aching and trembling. Neuritis in the right arm, excruciating at times, accompanied by stiffness in the right neck and lower back had accompanied the headaches. Indigestion and constipation had occurred. Dizziness, nervousness, restlessness, palpitation, disturbed sleep, and a tendency to chilling of the body had increased for three or four years. Nasal congestion and fullness in the right ear had been frequent.

The father had had headaches and her son had nasal congestion. Examination of all types were negative except for slight duodenal stasis and a spastic transverse and descending colon and delayed reactions to wheat.

Elimination diets 1 and 2 were prescribed and for eight months her headaches, dizziness, neuritis, indi-

TABLE 2.—Incidence of Family History of Allergy and Associated Allergic Syndromes in Eighty-six Patients with Migraine Due to Food Allergy

	Num-ber of Cases	Male	Female	Age	Posi-tive Family His-tory	Associated Allergic Conditions			
						Asth-ma	Hay Fever	Cuta-neous Allergy	Ab-dom-in-al Allergy
Migraine as a major complaint.....	46	16	30	38.4	39	3	4	18	22
Migraine as a minor complaint.....	40	7	33	41	25	7	11	19	33
Total	86	23 (27%)	63 (73%)	39.6 (Average)	64 (74%)	10 (12%)	15 (17%)	37 (43%)	55 (64%)

gestion, palpitation and chilling, have practically disappeared. Milk has been found to give trembling and chilling of the body and headache, tomato makes her sleepy and confused, citrus fruits make her nervous and jerky, and oatmeal produces canker sores on her tongue. Triple pancreatin granules have recently increased her digestive comfort.

Comment.—The relief resulting from the elimination diets and the specific effects of various foods as observed by the patient are typical. The severe neuralgia in arm and lower back relieved on the basis of food allergy draws attention to such a cause for neuralgia in certain patients.

CASE 2.—A man, age thirty-nine, had had headaches since earliest memories, occurring in the left forehead, in back of both eyes and especially in the back of the neck and head. He also had marked neuralgic pains and aching in the neck and shoulders. These headaches recurred at least once a week, lasting from eight hours to two days, and formerly were associated with nausea and vomiting. During the headaches he had to lie on his face and stomach and at times they were so severe he had to dismount from his horse, being a sheepman, and lie down in the grass. Nearly every afternoon he felt dizzy and fatigued. Food seemed to constipate him. Eating of cheese immediately produced a tingling cold sensation all over his body like that from menthol. Alcoholic drinks made him sleepy and had produced a rush of blood to the head. His father had similar headaches for many years. Cholecystectomy and appendectomy were done six years before and tonsillectomy ten years ago with

absolutely no help. Physical examination, laboratory, and x-ray studies were negative except for a duodenal cap which filled with difficulty, possibly due to adhesions from the former operation. Negative skin reactions to all foods occurred. With the use of my elimination diets, the headaches, fatigue, dizziness, and neuralgic pains have entirely disappeared over a period of ten months and he is working very hard without any symptoms. Wheat, eggs, and milk have been found to reproduce symptoms.

CASE 3.—A woman, age thirty-eight, had had recurrent headaches since childhood, and for ten years they had been practically continuous. For many years, purging physics have been taken daily to ameliorate the headaches though at least once a week, in spite of physics, severe headaches had occurred, lasting two to three days. Headaches were nearly always on the left side of the head, focusing in the eye, and nausea and at times vomiting accompanied them. She had no food dislikes or disagreements and had heaviness in the epigastrium with some distress in upper right quadrant with her severe attacks. A persistent eczema around the mouth had been present in girlhood. Persistent medical therapy for years, including daily ovarian and pituitary hypodermics for several months and two ovarian transplants, gave no relief except on one occasion when a reducing diet was prescribed which, it is of interest, cut out milk and wheat especially. A few skin reactions were obtained after complete testing with foods and condiments, but foods which have since been found to produce headaches by the use of the elimination diets gave negative reactions. Wheat is the worst offender, milk and butter give severe headaches, and corn, cherries, apricots, pears, beef, chicken, and pork are all productive of

TABLE 3.—History of Food Idiosyncrasies and the Occurrence of Positive Skin Reactions in Eighty-six Patients with Migraine Due to Food Allergy

	Food Dis-likes or Dis-agree-ments	Food Alone	Positive Skin Reactions						Surgery		Gas-tric Anal-ysis	X-ray of G. I. Tract	X-ray of Gall Blad-der
			Total Food	Anti-mal Ema-na-tions	Dusts	Pol-lens	Orris Root	Misc.	Naso-phar-ynx	Ab-dom-in-al			
Migraine as a major complaint	33	11	22	6	3	4	4	2	7	7	18	23	8
Migraine as a minor complaint	32	10	14	2	4	4	0	2	7	8	17	23	7
Total	65 (75%)	21 (24%)	36 (42%)	8 (9%)	7 (8%)	8 (9%)	4 (5%)	4 (5%)	14 (16%)	15 (17%)	35 (41%)	46 (53% ²)	15 (17% ³)

1. Stomach analyses all normal.
2. X-rays all normal except for a large dilated cap in one patient and moderate duodenal stasis in another patient.
3. Gall bladder studies after oral dye all normal.

distress. She is on a well-balanced diet, maintains her weight and strength and "feels as well as she can be."

* * *

CASE 4.—A woman, age fifty-five, had had migraine, associated with fullness in the head, "picket-fence" flashes, blind spots, faintness, and some nausea. These attacks had recurred every few days to two weeks, increasing in frequency lately and lasting twenty to thirty minutes for the last twenty years. Lately she had had much palpitation and had had increasing weakness and faintness during the attacks, and some flatulence, nausea, and weakness nearly constantly. For six years, arthralgia in various joints in the body had occurred. Her past history was negative except for typhoid at the age of twenty-three. Five years ago an exploratory operation because of indigestion showed no pathology in the upper abdomen and an appendix surrounded by slight adhesions was removed. No allergy was present in her family history unless a "chronic dyspepsia" in father had been due to such cause. Her physical examination, laboratory analyses including a stomach analysis, and two recent gall-bladder studies were all negative. Her skin reactions to foods were negative. She was placed on elimination diets 1 and 2. Her symptoms were rapidly lessened though some faintness and indigestion remained. She was then given peptone hypodermically twice weekly, and beef, apple, grapefruit, orange, string beans, beets, dates, raisins have gradually been added. On this regimen the migraine, faintness, and other symptoms which formerly occurred every day or two have been absent for several months except when she recently ate potato and some weeks ago when she took some milk.

Comment.—This migraine, with its associated symptoms, was relieved on the basis of food allergy. Peptone was of value in clearing up some of the mild symptoms, but recently the addition of milk and potato produced rapid trouble in spite of the administration of peptone.

I therefore feel that every case of migraine should be studied with the possibility of food allergy in mind. Many discussions of migraine, even today, lay most emphasis on neurosis as a cause. It is true that many of these sufferers are introspective, analytical, and neurotic. This is due in large measure, however, to their continued effort at self-help since all types of medical treatment have been of little benefit in the past. Allergy explains all the symptoms of migraine better than any other cause offered to date, and in my experience food allergy is the most probable type of sensitization operative in migraine. That other types of allergy, such as bacterial or that due to abnormal biliary or other secretions or to diseased tissue products, may possibly cause some of the cases of migraine which at present do not yield to dietary therapy is a hypothetical consideration worthy of study. However, it must be fully appreciated that certain patients are sensitive in varying degrees to practically all foods. Skin reactions at times occur in such patients, but they are frequently entirely absent. This extensive type of food sensitization is similar to the occurrence of sensitization to nearly all types of pollens as evidenced by skin reactions to tree, grass, weed, and cultivated flower pollens. In such cases of pollen allergy, persistent therapy with proper antigens will usually produce good results if carried out over a period of two or three years. In extensive food sensitizations, it may be

difficult to exclude all the offending foods, and the frequent absence of food reactions in such cases further complicates the problem. In my experience, however, such cases are in the minority, and the use of my elimination diets, together with the administration of peptone to control mild and obscure food sensitizations in selected cases, has produced most gratifying results.

DIAGNOSIS

In several publications,¹⁹ I have discussed the diagnosis and treatment of food allergy¹ in detail so that only brief mention of the important points will be made in this article.

In order to determine the presence of food sensitization, the history, skin reactions and diet trial are of value. A positive personal or family history of the various types of allergy makes the patient liable to allergic disturbances, though allergy may arise without such heredity. The patient's history of food dislikes or disagreements is also important in laying suspicion on specific food sensitizations. Cutaneous skin reactions to all foods and condiments that the patient ingests even occasionally and intradermal tests with those common foods which give no reactions with the scratch method are important to execute. However, as I have pointed out, food allergy frequently occurs with negative skin reactions due, according to Alexander,⁹ to the localization of the allergy in other than cutaneous tissues. This fact makes diet trial necessary for the diagnosis in most cases of food sensitization, and for this procedure my elimination diets have been of continued and increasing value during the last three years. These diets contain foods which my analysis¹ showed infrequently produced allergic symptoms in one hundred and seventy-five known food sensitive patients. Each diet contains as few of these foods as possible in order to better analyze the effect of each individual one. Each diet, however, contains one or two starches and meats, three or four vegetables and fruits, sugar, oil and salt so that balanced and satisfying meals containing proper calories can be prepared. These original diets are to be used for only one or two weeks, and in the course of a month the decision as to whether or not food allergy is a factor in the patient's problem can usually be made. The final diet can then be supplemented by the addition of vitamin D in viosterol and calcium lactate if milk is to be further excluded. Such additions can be made at the start of the trial diets if desired, though, as Alvarez²² recently stated, a slight deficiency in vitamins or mineral salts for two or three weeks is of little consequence. For the details of the diets, their preparation and adaptation to the patient's problem, the reader is referred to former articles.

TREATMENT

Treatment entails the continuance of the elimination diet which excludes those foods shown by diet trial to produce symptoms. It must be realized that new allergies to foods occasionally de-

TABLE E.—"Elimination Diets" (Rowe) for the Diagnosis and Treatment of Food Allergy*

	Diet 1	Diet 2	Diet 3	Diet 4
Cereal	Rice	Corn Tapioca	Rice Rye	Milk alone for the test period 2-3 quarts a day
Bread	Rice biscuit	Corn pone	Rye-rice	
Meat or fish	Lamb	Bacon Chicken	Beef	
Vegetables	Lettuce Spinach Carrots	Squash Asparagus Peas Artichokes	Tomatoes Beets String beans	
Fruits and jams and fruit drinks	Lemon Pears Peaches	Pineapple Apricot Prunes	Grapefruit Pears Peaches	
Miscellaneous	Sugar Olive oil Salt Gelatin Syrup made from cane sugar flavored with maple Olives (unstuffed)	Sugar Mazola oil Salt Karo corn syrup	Sugar Wesson oil Salt Gelatin Syrup made from cane sugar flavored with maple	

Comments on Administration of "Elimination Diets."

1. Absolutely no foods other than those specified in each diet can be used. Thus in Diet 1, rice must not be fried with butter or lard, but only with the fat specified, which is olive oil. Absolutely no bread, milk, cream or other nonspecified foods can be used.

2. Prescribed fruits can be used in drinks, in salads, for desserts, and for jams and sauces.

3. Gravies for meats and sauces for vegetables can be thickened only with flour allowable; i. e., rice in Diet 1; cornstarch in Diet 2; etc.

4. Olive oil in Diet 1, corn oil in Diet 2 and cottonseed oil in Diet 3 are indicated according to sensitizations to olive, corn, or cottonseed antigens. These may be interchanged if necessary.

5. Calories must be increased by plenty of sugar, oil and starch prescribed. Vitamins must be assured by plenty of vegetables and fruits prescribed.

6. Each diet has special substitutes for bread made from specified flours and no proprietary breads which may contain unknown ingredients such as milk, etc., can be taken.

7. Special desserts containing only ingredients specified in each diet should be taken. No spices, special foods for flavoring are included in first diets to limit the total ingredients.

8. To maintain carbohydrates and protein content prescribed starches should be taken at each meal and meats at least two meals.

9. These diets are models on which other diets, composed of foods to which no history of sensitization or positive skin reactions exist may be formulated, if necessary, by the physician. However, these three diets have been found effective in most cases for diagnosis and treatment of food allergy and usually may be used in rotation or one added to the other, if symptoms are relieved.

10. These diets can usually be prescribed in succession, with modifications indicated by history or skin tests. Seven to ten days should be given for the trial of each one. They should be increased by the trial of one or two foods every five days. Wheat and egg should be added last and milk tried at the end of four weeks.

velop and that sensitizations may vary in degree from month to month. These facts and others which cannot be discussed here make the control of food allergy a clinical problem necessitating the most careful supervision and follow-up on the physician's part and the most steadfast coöperation of the patient. Results such as I report in this article may be obtained with such effort and will amply reward the physician and patient.

The intravenous use of five per cent peptone has been recommended by Miller and Raulston⁸ in the treatment of migraine. In resistant cases of both allergic toxemia and migraine I have used peptone with definite help, though in severe cases that have not had any relief from the elimination diets peptone has likewise been of little assistance. Because of the occasional severe general reaction obtained by the intravenous use of peptone, I have only administered it subcutaneously for the last two years, and I have found that one to two cubic centimeters orally every two to seven days give results comparable with those obtained with the intravenous method. The use of peptone is in-

dicated when toxemia or migraine do not respond to dietary therapy or when it is impossible to remove all foods from the diet that are productive of mild sensitizations. The oral administration of peptone in one to two-gram doses three-fourths of an hour before meals has not taken the place of subcutaneous therapy though slight relief has occurred in a few cases.

Brown⁴ has recommended the use of pepsin and dilute hydrochloric acid as a method of control of food allergy. Sansum advises the use of citric acid and salol-coated pancreatin for the same purpose. In fact such therapy was suggested in the original monographs on food allergy by Barnathan²³ and Laroche, Richet and Saint Girons.² Recently Caulfield suggests the use of trypsin in thirty-grain doses with meals. My recent experience indicates that the use of trypsin or pancreatin in such large doses may help some of the mild symptoms. In my series, where stomach analyses seemed advisable in 41 per cent of the cases, free acid was uniformly present, making its additional use seem unnecessary. Moreover, it is certain that food proteins which produce severe symptoms within a few seconds to thirty minutes after eating cannot be so completely digested by pancreatin as to prevent allergic disturbances. However, the possibilities of such

* Author's original diets as published in 1928 have been slightly modified during the last year. Space does not permit the printing of suggested menus and explicit amounts of food for each diet. Such menus have already been published in the Western Hospital and Nurses' Review, Vol. 13, Nos. 1 and 2. More extended suggestions are to appear in the author's monograph on Food Allergy which is to be published in the next few months.

digestive therapy for the control of food allergy must be followed with an open mind.

Patients with these syndromes frequently discover that the daily use of physics or of enemas or the frequent use of colonic irrigations minimize their symptoms or prevent frequent recurrences. In my cases such therapy has not been necessary though I advise the use of mineral oil and agar or psylla seeds or occasional low saline enemas if constipation persists. I feel that much spastic constipation and mucous colitis are likewise due to food sensitization.

The use of biliary drainage as reported by McClure and Huntsinger¹⁴ in the control of migraine must be remembered. This method was not used in any case in this series because of satisfactory result obtained by elimination diets. In a few cases of migraine which were not controlled, biliary drainage was resorted to with no benefit. The possible help of bile salts in view of evidences of disturbed liver function, as mentioned previously in this paper, should be considered. For temporary relief, until dietary therapy is effective, aspirin, acetphenacetin or pyramidon in five or ten-grain doses up to four times in the twenty-four hours are of benefit. If necessary the use of one-fourth to one-half grain doses of codein sulphate in combination with one of the above drugs is warranted. The patient who has a severe idiosyncrasy to one of these coal-tar derivatives is not uncommon. The use of adrenalin, 1 to 1000 in 8 to 12-minim doses subcutaneously, has given spectacular relief in some patients, though the absence of such benefit does not rule out allergy as a cause.

CONCLUSIONS

1. Allergic toxemia due to food allergy is for the first time described in the English literature as a clinical entity of importance. It is not uncommon and is usually associated with migraine and gastro-intestinal allergy.

2. Migraine is best explained as an allergic phenomenon, and food allergy in my experience is the most commonly recognized cause of this condition. Its manifestations vary in degree and may be associated with transient nervous complications.

3. The treatment of allergic toxemia and migraine due to food allergy is carried out by my elimination diets modified according to the patient's history of food disagreements or by any positive skin reactions obtained on the patient. Good results demand strict adherence to the method described in my former articles.

4. The use of peptone subcutaneously has also been of benefit in controlling mild symptoms due to slight or obscure food sensitizations.

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REFERENCES

1. Rowe, A. H. Food Allergy—Its Manifestations, Diagnosis and Treatment, *J. A. M. A.*, 91, 1623, November 24, 1928; Gastro-Intestinal Food Allergy—A Study Based on One Hundred Cases, *J. of Allergy*, Vol. i, 172, January 1930.

2. Laroche, G., Richet Fils, C., and Saint Girons, F. Gastro-Intestinal Food Allergy. Translated into English by Rowe, M. P., and Rowe, A. H. University of California Press, 1930.

3. Kahn, I. S. Pollen Toxemia in Children. *J. A. M. A.*, 88, 241, January 22, 1927.

4. Vaughan, W. T. Diseases Associated with Protein Sensitization, *Virginia Medical Monthly*, September 1922; Allergic Eczema, *J. Lab. and Clin. Med.*, 13, 24, 1927; Allergic Migraine, *J. A. M. A.*, 88, 1383, April 30, 1927; The Allergic Factor in Mucous Colitis, *South. M. J.*, 21, 894, November 1928.

5. Brown, O. H. Protein Desensitization and the "Food Addition Method" in Asthma. *Southwestern Med.*, 6, No. 8, 1922.

6. Balyeat, R. M. Hay Fever and Asthma. Second edition, Davis Company, Philadelphia, 1928; Food Allergy, with Special Reference to Eczema, Urticaria, Abdominal Pain, and Migraine, *J. Oklahoma M. A.*, Vol. xxii, No. 2, February 1929.

7. Beecher, W. L. Migraine or Sick Headache, *Ill. Med. Jour.*, 55, 123, 1929; Allergic Mucous Colitis, *Clin. Med. and Sur.*, August 1929.

8. Miller, J. L., and Raulston, B. O. Treatment of Migraine with Peptone. *J. A. M. A.*, 80, 1895, June 30, 1923.

9. Alexander, H. L. Localized Allergy. *M. Clin. North America*, 11, 399, September 1927.

10. Liveing, E. On Megrim, Sick-Headache, and Some Allied Disorders. London, 1873.

11. Woltman, H. W. Headaches. *M. Clin. North America*, 8, 1319, 1925.

12. Brunton, T. L. Poisons Formed from Food and Their Relation to Biliousness and Diarrhea, *Practitioner*, 35, 112, 1885.

13. Brown, R. C. The Protein Foodstuffs as a Factor in the Cause of Headache, *Wisconsin M. J.*, 19, 337, 1920; Protein Poison Theory—Its Application to the Treatment of Headache and Especially Migraine, *Brit. M. J.*, January 24, 1925, page 155.

14. McClure, C. W., and Huntsinger, M. E. Paroxysmal Headaches, *New England J. Med.*, 199, 1312, 1928; Observations on Migraine, *Boston M. and S. J.*, 196, 270, 1927.

15. Diamond, J. S. Liver Dysfunction in Migraines. *Am. J. M. Sc.*, 174, 695, November 1927.

16. Hartsock, C. L. Migraine, *J. A. M. A.*, 89, 1488, October 29, 1927.

17. Stevens, N. C. Endocrine and Fatigue Headaches. *New England J. Med.*, 201, 801, 1929.

18. Brown, T. R. Role of Diet in Etiology and Treatment of Migraine and Other Types of Headache. *J. A. M. A.*, 77, 1396, October 29, 1921.

19. Rowe, A. H., and Richet Fils, C. Nervous Manifestations of Chronic Food Allergy. *Journal Médicale Français*, 19:170, May 1930.

20. Bassoe, Peter: in discussion on Drysdale, H. H. Acute Circumscribed Edema (Quincke). *J. A. M. A.*, 89, 1393, October 22, 1927.

21. Rowe, A. H. Abdominal Food Allergy—Its History, Symptomatology, Diagnosis and Treatment, *California and West. Med.*, November 1928; Food Allergy—Its Control by Elimination Diets, *West. Hosp. and Nurses' Rev.*, March and April, Vol. xiii, Nos. 1 and 2, 1929.

22. Alvarez, W. C. The Mechanics of Digestion. *J. Am. Dietet. A.*, 5, 180, December 1929.

23. Barnathan, L. L. Alimentary Anaphylaxis, Clinical and Experimental Studies. Theses de Paris. 1910-1911. Paris.

DISCUSSION

V. G. ALDERSON, M. D. (3115 Webster Street, Oakland).—It is now generally accepted that many diseases are caused by sensitization of the body to some protein. Doctor Rowe's paper calls attention to a condition of allergic toxemia, due to food sensitivity, which is probably not uncommon but which is not being recognized. Doctor Rowe's elimination diets

in connection with a careful allergic history place an instrument in the hands of physicians for the diagnosis and treatment of this condition as well as other food allergies.

Due to the expense and technical detail involved in the study of allergy, it has been limited to a few. With simplified methods, more physicians will study allergic patients and a wider knowledge be gained.

When skin tests can be done in conjunction with trial diets, quicker and better results can usually be obtained. Better cooperation can be expected from patients who are frequently weary of dieting and welcome skin tests with new interest.

If skin tests are done for foods the intracutaneous method is more reliable than the scratch method, and is not dangerous when carefully done. I have found that skin tests give accurate information in most cases, although, as Doctor Rowe states, the skin does not always react when the individual is really allergic. Should skin tests be negative, repetition at varying intervals is advantageous.

SAMUEL H. HURWITZ, M.D. (490 Post Street, San Francisco).—Doctor Rowe has listed a train of symptoms which are not uncommonly associated with many illnesses, notably those in which it is difficult to find any definite organic cause. Whereas there is little doubt that many symptoms such as Doctor Rowe has described have frequently masqueraded under false diagnoses, nevertheless it is true that it is not always easy by the methods at present available to demonstrate beyond question that such symptoms may in many instances arise from allergic causes. Doubtless one may, by the careful study of these patients, take out of the group of ailments previously classified under the diagnosis of autointoxication a number which belong to Doctor Rowe's group of allergic toxemias, and this applies also to a large group of patients who present themselves for headache of unexplained etiology.

However, in order that the term "allergy" may continue to be a definite descriptive designation of a pathologic state it is essential that we define its use. Some postulates must be laid down before one can, with reasonable assurance, maintain that a certain symptom complex is due to an allergic cause. We feel that the definition of allergy and its importance in the etiology of disease will be much clarified by adopting, whenever possible, the postulates of Cooke before assuming or proving that any protein or other chemical substance is a causative factor in a case of hypersensitiveness. In brief these are: First, a history of contact by the individual in some way with the suspected substance in order to permit it to act as an etiologic factor; second, the demonstration of sensitization by a positive local reaction, cutaneous, intradermal or ophthalmic; and third, the reproduction at will of the original allergic manifestation on introduction of the substance either by inhalation, ingestion, or subcutaneous injection.

Two of these postulates, to be sure, are satisfied by Doctor Rowe's clinical observations. The patients for the most part gave a history of allergic manifestations in some members of the family, and secondly, the ingestion of the offending food protein was successful in many instances in reproducing the patient's symptoms. The difficulty of eliciting positive cutaneous or intradermal tests in instances of food allergy has been commented upon by many observers. Unfortunately, however, the train of symptoms which Doctor Rowe classifies under the designation of "Allergic Toxemia and Allergic Migraine" is somewhat vague and not so clean-cut in its clinical manifestations as an attack of bronchospasm or the symptom complex described under the name of "hay fever." It is this difficulty of reasoning from cause to effect that has made some observers dubious as to the existence of the clinical entity which Doctor Rowe has described. However, those who are studying allergic patients intensively must admit that clinical instances of the conditions which he has described doubtless

exist, but that our limited facilities frequently make a clean-cut diagnosis almost impossible.

Doctor Rowe is to be congratulated because of his perseverance and patience in the study of this complex and difficult problem in allergy.

H. E. HENDERSON, M.D. (1421 State Street, Santa Barbara).—Doctor Rowe's interesting paper on allergic toxemia and food allergy in relation to migraine is a challenge to every internist and thinking physician. Allergy in general, and food allergy in particular, is assuming more and more importance in medicine as our understanding grows. There is no doubt in my mind that a certain group of patients complaining of an indefinite and obscure chain of symptoms such as described by Doctor Rowe are suffering from food allergy. Even more striking is the group of intractable "colitis" patients who do not respond to the usual methods of intestinal therapy. Many of these are really food-sensitive people and should not be considered incurable neurotics. The very indefiniteness and variability of the symptoms in each individual is perhaps our strongest clue toward a diagnosis. Skin tests are notoriously unreliable in these conditions, and negative reactions should not discourage us from using elimination diets and food trials.

Skin sensitization is much more marked during a quiescent period and, as a rule, should not be done during or just after an acute attack. This point is often overlooked by those unfamiliar with allergic reactions. In addition to skin tests and food trials a careful history is of utmost importance, as Doctor Rowe has pointed out. More attention should be paid to the patient's own statements regarding his food idiosyncrasies and, above all, a realization that food allergy is an entity, will go far toward solving many obscure and intractable problems.

Doctor Rowe's enthusiasm and persistence in this field are most commendable. There is still much to be learned, and this is best accomplished by stimulating wider study of the subject among the profession.

DOCTOR ROWE (Closing).—The fact that migraine and certain types of toxemia which have puzzled physicians in the past and which I have described as a new entity under the name "allergic toxemia due to food allergy," as well as many gastro-intestinal disturbances including colitis, constipation, indefinite gastric symptoms and various pains simulating gall bladder, or appendiceal disease as well as ulcer are all commonly due to food allergy, must be accepted by the medical profession for the good of their patients. The bronchial and cutaneous allergies due to food as well as other types of allergens are more generally recognized.

As brought out in my contributions during the last four years, when reactions in food-sensitive patients are frequently negative the use of diet trial, therefore, is of great importance in suspected cases. The use of my elimination diets modified by skin reactions, if such are able to be carried out by the physician, will aid greatly in the discovery of such obscure allergies.

It is fortunate to have the confirmatory and constructive discussions from Doctors Henderson, Hurwitz, and Alderson. Doctor Hurwitz rightly wishes for the positive skin reaction in patients relieved on the basis of food allergy. However, the former dependence on such reactions explains in large measure, I feel, the long-delayed and important recognition of the many manifestations noted above. It must be realized, as Alexander has emphasized, that food allergy is usually a localized phenomenon. Immune bodies which cause the skin reaction may never be present in the skin, or immunization of the dermal structures may be present while sensitization of other tissues in the bronchio, gastro-intestinal tract or nasopharynx may be active. Food allergy, therefore, is essentially a clinical study which can be aided in certain cases by skin reactions. Its frequent occurrence in infancy and in adult life must be realized.

MILD MENTAL DISTURBANCES—PREVALENT CAUSES*

By THOMAS G. INMAN, M. D.
San Francisco

IT is quite generally believed that functional nervous disorders have markedly increased during recent years, though no authentic data are available in support of this belief. Physicians practicing in any branch of medicine always have had to deal with cases of mild mental distress which seemed out of proportion to the anxiety normally incident to the physical disturbances in question. Physical illness, even of slight degree, may be a new experience and may so suddenly change the accustomed relationship of the individual to his environment that new problems arise beyond his ability to solve. Hidden from the medical attendant, but disturbing the patient, lie concealed fears of disability and death, of economic embarrassment, and of concern for the welfare of dependents. Usually these minor difficulties pass away upon the return of health or are dissipated by the wise counsel of the physician, but occasionally the anxiety engendered may remain and require special treatment.

SOME CAUSAL FACTORS

Mixture of Racial Types.—A definite susceptibility to mental disturbance may arise out of the heterogeneous mixture of racial types which make up the population of this country. In the offspring of the union of dissimilar types there may be an unhappy blending of those archaic elements upon which much of our personality depends. There is occasionally found in these cases a reversion to type, the child bearing no resemblance in mentality to parents, brothers or sisters. These unfortunates live in a family environment to which they never become habituated nor in which they are ever understood. In a number of personal observations, complete adjustment did not occur until the patient left the family circle to live elsewhere.

Immaturity in Brain Development.—Immaturity in brain development at man's present evolutionary level may be responsible for a certain amount of mental instability. Variations, impossible in a state of nature, occur among civilized peoples and probably have much to do in causing those extremes of character so frequently observed. In our present civilization, the protection extended to aberrant and inferior individuals will increase the distance already existing between the two extremes of character and possibly divert the course of evolution into devious and precarious paths. According to Joseph Shaw Bolton,¹ "The greater the rapidity of our evolution and the plasticity of our higher organs the more numerous naturally are the variations above and below the average, the more common must be individual genius and individual mental deficiency and dementia."

Modern Social System.—Many of the milder forms of mental disturbance have their immediate origin in the contradictory nature of our present social system. Changes of unusual magnitude have taken place in the industrial and economic life of this country. Opportunity for the exercise of psychomotor activity has reached a height never before known in the history of the world. Former luxuries are now considered necessities, some of them serving the purpose of giving expression to underlying neurotic tendencies. Many of our people must contend with a compelling desire to possess that which they cannot afford, a state of mind played upon by skillfully worded advertisements and catered to by a pernicious credit system.

Newspapers and Advertisements.—Among other common causes arising in the environment may be mentioned scare-line headings in the newspapers, the prominence given to sudden deaths from well-known diseases, the cunningly worded advertisements of quacks and promoters of patent medicines and cure-alls. Occasionally the thoughtless remark of a physician about the height of the blood pressure or the presence of a heart murmur may fall upon fertile ground and start the patient off on a long period of unnecessary worry.

Economic Reverses.—A certain amount of mild mental disturbance will be found among those to whom changed financial and social conditions have brought poverty and loss of former prestige. They find themselves compelled to accept charity from others not always sympathetic and kind. They must rub elbows with the rough and uncouth. Of gentle birth and refined tastes, they find themselves out of place in this hurly-burly world and are unable to adapt themselves to new and uncongenial conditions. Of little use to them are the empty precepts of philosophy or the solacing injunctions of holy writ. They are the unhappy victims of one of time's grim jokes.

"for time and fortune
Wears out a noble train to beggary;
And from the dunghill millions do advance
To state and mark in this admiring world."

Speculation.—The excitement and depression incident to speculation take their toll of victims. Man is so occupied with those things which arise from present needs and desires that he finds little time in which to inform himself upon the history of matters he deals with in his daily life. From time to time we pass through periods of economic stress similar in origin and comparable in results to innumerable experiences in the past.

More than two hundred years ago, about the time of the collapse of the Mississippi scheme, a caricature appeared in France representing the Goddess of Shares in her triumphal car driven by the Goddess of Folly. Behind is an immense crowd of persons of all ages, sexes and conditions, clamoring after Fortune and fighting with each other to get a portion of the shares which she distributes so bountifully among them. In the clouds sits a demon blowing bubbles of soap,

* Chairman's address before the Neuropsychiatry Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

which are also the objects of the admiration of the crowd, who jump upon one another's backs to reach them ere they burst. Right in the pathway of the car, and blocking up the passage, stands a large building with three doors through one of which it must pass if it proceeds farther, and all the crowd along with it. Over the first door are the words "Insane Asylum," over the second, "Hospital," and over the third, "Prison." It is unnecessary to point out the specific application to our own times. Men, it has been well said, think in herds, they go mad in herds, while they only recover their senses slowly and one by one.²

Effects of Other Diseases.—It is a common observation that the functions of the brain may be interfered with by disease processes existing elsewhere in the body. There is ready admission of this possibility when the intelligence factors are appreciably and definitely affected. But unstable emotional states may go for a long time under the impression that the condition is one of hysteria, nervousness, or just plain contrariness.

A sixteen-year-old girl suffered for more than a year with "nervous chills," exhaustion, sensitiveness to cold, and inability to keep up with her class in school. All of the above-named diagnoses were applied to her case and in addition, as a result of an intelligence test, she was said to be a moron. Aside from a slight secondary anemia no physical finding was ever discovered until an x-ray of her apparently sound teeth disclosed an abscess in the upper maxilla. One month after proper treatment she obtained employment, rose to a position of trust and rendered efficient service for many years.

A fifty-year-old woman had for fifteen years suffered from nervousness, vague pains in the back and limbs and a feeling as if ice water instead of warm blood flowed in her veins. There was lack of interest, loss of memory and a desire to do away with herself. She was confined in a hospital for mental cases conducted by a pseudoreligious cult. Fifteen grains of thyroid substance daily proved more efficacious than the uncertainty of divine intervention. Three months after beginning treatment she was quite well.

Are the mental symptoms evinced in cases of this kind directly dependent upon a toxic or chemical effect upon brain tissue or does the somatic disease only disturb the sense of well-being of the individual and, by removing restraining inhibitions, allow preëxisting conflicts to come into play?

If this is a debatable question in the foregoing examples the following case rests on more certain grounds.

A 45-year-old executive, stooping to take some papers from a lower drawer, had an attack of dizziness. Seeking medical advice and receiving no explanation for this and subsequent attacks, he was sent to a sanatorium for nervous diseases under the impression that he was a neurasthenic. Here he remained for three months. During this time the mental distress incident to the worry about himself and the uncertainty as to the nature of his affliction so overshadowed the primary symptoms that they were forgotten. Finally, a critical review of the history and an examination of the vestibular apparatus disclosed the nature of the trouble. He returned to work and, in spite of an occasional attack of vertigo, has had no further mental disturbance.

DIFFICULTIES IN THESE PROBLEMS

That human beings profit little from their own unhappy experiences, or from the experiences of others, seems to be as true of matters which concern their own personal well-being as it is of the external affairs of life. The man who takes his timepiece to the best repair shop and his dog to the best veterinarian he can find will for his own ills employ any remedy recommended by the first man he meets in the street. Neither of them knows the nature of the ailment nor would he understand it if he did; but, like the blind leading the blind, each seems totally unaware of the other's shortcomings. But this is no new condition. In his *La Médecine et les Médecins*, published in 1857, Peisse says, "An infallible sign that a science is not established is when it is still a kind of common property. My porter does not hesitate to diagnose a disease, to point out the cause, to prescribe the remedy, and to predict the issue. He considers it his right. This position of medicine has been the same for two thousand years."

Universal education, the panacea recommended for the cure of those social ills once credited to ignorance, has not yet fulfilled its intended purpose. It has been diverted from its true cultural aim into channels where it serves an unprincipled cupidity as faithfully as it once illuminated the humanities. To offset the evils developing out of this situation the relationship of the individual to the state and of the state to the individual have assumed new proportions. Paradoxical innovations in legislation are being tried whereby the freedom which education was expected to secure has been supplanted by drastic regulation. It need cause no surprise if above the mutterings of discontent we hear the words of Caliban,

"You taught me language; and my profit on't

Is, I know how to curse."

Some day the self-appointed reformer may learn that character cannot be advanced by legislative act nor can a discrimination in the niceties of human conduct be infused into a people by the mere stroke of a pen.

SUMMARY

While anatomical methods will aid in the estimation of those factors upon which intelligence depends, other methods must be called into service in determining the nature of those agencies which contribute to the emotional characteristics of the individual. To this end some form of mental analysis is necessary and under whatsoever name it may pass must be sufficiently complete for the purpose in hand. It must be granted that in any case of mental disturbance, mild or severe, the mechanisms which underlie the visible symptoms are more deeply hidden and of greater significance than might be surmised. But in many of the milder forms it is neither practicable nor convenient for the patient to undergo a lengthy course of treatment. It must often be sufficient to uncover the immediate cause of the mental un-

rest, explain its relationship to the present condition and by a number of constructive talks re-establish the former state of confidence.

In the study of even mild cases of mental disturbance new light is thrown on the causes of and peculiarities in human conduct. In normal persons the mechanisms which determine the flow of ideas are under control; the natural and acquired inhibitions are functioning in proper sequence and the emotions are held in check by a consciously acting intelligence. But with mental imbalance there is a lack of coordination between the intelligence and the emotions. Inhibitions are either overactive or cease to be the guardian sentinels of thought and conduct. The hidden springs which supply the stream of consciousness are uncovered and the motives which determine behavior stand out in bold relief. To the mental patient is well applied the words of Prospero,

"Thy nerves are in their infancy again,
And have no vigor in them."

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REFERENCES

1. Bolton, Joseph Shaw. Sixth Maudsley Lecture. J. Ment. Sc., July 1925.
2. Mackay, Charles, LL.D. *Memoirs of Extraordinary Popular Delusions and the Madness of Crowds*. London, 1852.

LATE SYPHILIS—TREATMENT WITH A SINGLE STRAIN OF MALARIA*

ANALYTICAL EVALUATION OF THERAPEUTIC RESULTS IN FOUR HUNDRED CASES

By ROSS MOORE, M. D.
Los Angeles

DISCUSSION by Henry G. Mehrtens, M.D., San Francisco; Walter E. Leonard, M.D., Los Angeles.

THE clinical course of syphilis after its secondary manifestations have disappeared is curiously vague and uncertain. Therefore the therapeutics of this period are necessarily in a corresponding state of conceptual chaos. It is therapy without clear foundational thought—treatment without adequate biological substratum.

STATISTICAL STUDY OF FOUR HUNDRED CASES

This analysis is an effort to think back toward physiological origins via malaria therapy.

Three hundred and fifty of the cases in this series were diagnosed paresis. Fifty of them were tabes or cerebro spinal syphilis.

Two hundred and thirty-four of the paretics were treated in Norwalk State Hospital between December, 1926, and December, 1929.

Dr. F. J. Van Meter, resident syphilologist, has made a statistical study of this series as of May 1, 1930—four months after the last treatment had been finished. He reports as follows: sixty-eight patients or 29 per cent improved sufficiently to be paroled or discharged; fifty-nine or 25 per cent improved markedly but are still in the insti-

tution; forty-one or 17 per cent are unimproved; sixty-six or 28 per cent died during or shortly after treatment.

In discussing these results Doctor Van Meter calls attention to the fact that remissions occur in only three or four per cent of untreated paretics and in six or seven per cent of those treated with arsenicals. Although statistics of this kind are unreliable things, yet Doctor Van Meter's percentages warrant the conclusion that at Norwalk at least, malaria treatment in paresis has been more helpful than other methods.

Throughout the world many thousand treatments of this kind have been given during the last thirteen years. Some investigators are enthusiastic in favor of malaria treatment. Others are conservative. None have condemned it wholesale. But the method cannot yet be said to have entirely proved itself. This it may do in the future. Again it may not. Even though finally discarded, malaria treatment will have been extremely useful in helping to clarify and advance anti-syphilitic therapeutics.

During this study of the effects of malaria in syphilis the need for a more scientific sense of human physiology in action against *Treponema*, has been keenly felt. Standard accepted therapeutic methods against syphilis are empiric in theory, or have no theory. This makes them inadequate in practice. They neither kill treponemic infection nor prevent recrudescences, a bitter and humiliating admission.

A theory of treatment is needed which has for its basis the physiology or physio-pathology of syphilis. This would be a live theory. The present theory, based upon symptoms and pathologic findings is a dead theory.

STAGES IN PHYSIOLOGIC PROGRESS IN SYPHILIS

So far as its reaction on human physiology is concerned, syphilis divides itself into five stages or periods, viz., primary and secondary syphilis as in the old classification, hidden syphilis, irritative syphilis and degenerative syphilis.

For use in this present study these periods may be sketched as follows:

Primary syphilis possesses but one lesion, the external evidence of that vigorous effort which physiological defense mechanisms are making to prevent generalized invasion of the body by *Treponema pallidum*. Defense mechanisms may hinder such invasion but seldom or never prevent it.

Thus general systemic invasion soon becomes a reality and the second period, called secondary syphilis, has begun. Its cutaneous, neural and other manifestations are the visible evidence that defense mechanisms are being forced to wage a desperate defensive warfare in every part of the body.

The gradual disappearance of these secondaries indicates that defense mechanisms have become strengthened gradually until a fighting ability somewhat near equal to that of *Treponema* has been attained.

* Read before the General Medicine Section of the California Medical Association, at the Fifty-ninth Annual Session, Del Monte, April 28-May 1, 1930.

When this equality is attained and has become stabilized, the third period called hidden syphilis replaces the second period. Hidden syphilis lasts exactly as long as defense mechanisms maintain their fighting equality with *Treponema*. However, during this entire pseudo quiescent period, burrowing, sapping, enervating syphilitic attrition never ceases.

After months or years, trouble breaks out again. Signs and symptoms now indicate that defense is crumpling and breaking before treponemic onslaught. It is the beginning of the fourth period, called irritative syphilis. This period lasts a long or a short time, depending on whether the patient possesses powers of resistance that are hereditarily great or small.

Sooner or later the period of irritative syphilis is crowded out by the fifth period, degenerative syphilis. Thereafter the clinical course of the disease is slowly materializing death.

For the sake of greater clarity, these five physiologic periods are restated in epitomized form as follows:

In primary syphilis, strong but inexperienced physiologic defense mechanisms try unsuccessfully to prevent a local treponemic infection from becoming generalized.

In secondary syphilis, stronger and more experienced defense mechanisms fight *Treponema* in all parts of the body, with considerable success.

In hidden syphilis, still stronger and more experienced defense mechanisms prevent for the time being the appearance or reappearance of all syphilitic symptomatology.

In irritative syphilis, defense mechanisms begin to show signs of exhaustion. New signs and symptoms then make their appearance.

In degenerative syphilis, defense mechanisms have become destroyed and are dead.

Primary and secondary syphilis constitute an inclusive classification called early syphilis. Irritative and degenerative syphilis are late syphilis. Hidden syphilis is a transitional period.

At some time during the transitional period of hidden syphilis a physio-pathologic turning point is reached. Previous to it, defense mechanisms are strong and able. After the transitional period they gradually lose strength and ability until death closes the scene. This is also a moment when a change of method must be made if therapy is to adequately meet new conditions. The kind and quality of therapeutic help required after the turning point is quite different from that needed before it. Afterward, the human mechanism requires support and revitalization above everything else.

THEORY OF THERAPY BY MALARIA IN LATE SYPHILIS

Does malaria treatment in any way meet this requirement? Does it support and revitalize failing defense mechanisms?

Statistics in general and those of Norwalk in particular seem to answer these questions in the affirmative, in so far as paresis is concerned. The following case appears to affirm it for tabes.

A fifty-two year old barber contracted syphilis thirty-two years ago. Lightning pains began sixteen years ago and thereafter a typical clinical picture of tabes developed in spite of well applied standard therapy.

Fifteen months ago this patient was given malaria treatment. Straightway his lightning pains disappeared and have not reappeared. He became physically a great deal stronger and lost much of his ataxia. For the last ten months he has been back at his trade, although still somewhat ataxic and quite devoid of knee jerks and pupillary reflexes.

It is reasonable to believe that in this case syphilitic irritation of the spinal cord has been negated or neutralized or abolished by malaria treatment.

If space permitted, favorable results in many varieties of cerebro-spinal syphilitic involvement might be cited.

It is therefore possible to answer the above questions in the affirmative. Malaria treatment is able to support and revitalize physiologic defense mechanisms in many different types of late syphilis.

Granting that malaria treatment is effectual, how does it accomplish this feat?

Apparently it causes a decrease in syphilitic irritation, although the ultimate biochemical *modus operandi* by which it does this is unknown. Possibly there is some significance in the fact that the treponemic cause of syphilis is first cousin to the plasmodial cause of malaria, although the activities of these cousins, inside the body, seem very different. *Treponema* attacks sluggishly and ponderously. *Plasmodium* attacks violently and spectacularly. It thus results that physiologic defense mechanisms are stirred into much more immediately vigorous and aggressive action by *plasmodium* than by *Treponema*. Is it possible that antibodies formed by plasmodial energeticalness are more potent against *Treponema* than those formed by *Treponema* itself?

However this may be, one fact begins to be clear—malaria treatment is a distinctly physiological type of remedy. It apparently accomplishes its object by stimulating or aiding the natural defenses of the body to reassume their normal tasks.

Another question—

If malaria treatment has done so much for certain types of late syphilis, what other things may it be able to accomplish?

The answer is, that malaria treatment may be useful wherever there is gradually developing syphilitic weakness. This is a broad statement but a justifiable one. During all of irritative and degenerative syphilis, gradually developing weakness is present. The period of degenerative syphilis is included here, not because it is amenable to any form of treatment but because it is clinically inseparable from irritative syphilis. Only therapeutic test can disclose whether a given case is irritative syphilis or degenerative syphilis or a mixture of the two. Most cases which show fairly

completely developed clinical pictures of paresis and tabes are this kind of mixture.

It would be somewhat daring to say that malaria treatment should be used in hidden syphilis. It would be more daring to say that it should be used in secondary syphilis. It would be most daring to say that it should be used in primary syphilis. There is no present warrant for such statements. But there is not only warrant but sound common sense in the idea that the use of malaria treatment should be considered wherever and whenever physiologic defense mechanisms give signs of failure in their struggle against syphilis.

Compare the use of this physiologically supportive remedy to the fatuous and futile drenching of slipping patients with synthetic, metallic proprietaries.

VALUE OF COMBINATION OF OLD AND NEW THERAPY

Other questions present themselves in this connection. For example, what is the best way to combine old therapy with new therapy in late syphilis, or should they be combined? How many malarial paroxysms should be allowed? How soon, if ever, should malaria treatment be repeated? and so forth.

Answers would be interesting to work out but would carry this discussion too far afield from its primary object. Enough has been said to focus attention and stimulate interest in the physiologic reactions of the human body when invaded by *Treponema*. Clear thinking along this line will result in better engineered anti-syphilitic treatment.

Four hundred cases are not enough to prove a point. Neither do forty-odd months of experience with a particular method of treatment prove its quality. Nevertheless, when those cases and that method are reviewed before the limitless background of historic syphilology, a conclusion, an impression and a concept, are left in mind.

The conclusion: Malaria treatment with the occasional aid provided by older therapeutic procedures, is the best method at present available for combating late syphilis.

The impression: The physiologic aptness of malaria treatment in late syphilis gives the therapist a sense of solid satisfaction and accomplishment which has never before been experienced in connection with the older methods.

The concept: In order to be adequately understood, late syphilis must be conceived of as a period in which physiological defense mechanisms are fighting an uncertain and apparently a losing engagement with *Treponema*. Therefore, the supremest possible therapeutic accomplishment of the moment is to adroitly support and revitalize these struggling defense mechanisms in this their final life and death combat.

1930 Wilshire Boulevard.

DISCUSSION

HENRY G. MEHRTENS, M.D. (Stanford University Hospital, San Francisco).—Dr. Ross Moore's paper is exceedingly timely. We need to be continually re-

minded that we have not the faintest notion of how our arsenic, mercury, or bismuth affects the spirochetes. Neither have we any accurate method of judging just what dosage is helping the organism in its fight with the spirochetes, and what dosage may actually be handicapping the patient in his struggles. We must be ever on the alert to utilize our best clinical judgment to see that we do not overwhelm the bodily defenses with our medications. That malarial treatment helps neurosyphilis not amenable to the ordinary intensive antiluetic medication must be admitted by all who have had any considerable experience with the method. There is some doubt in my mind that the malarial treatment will be our ultimate solution of the problem. At Stanford we have utilized the fever produced by baths—104 degrees to 106 degrees Fahrenheit mouth temperature—with results comparing well with those we secured with malaria. Other clinics have used fevers produced by electricity.

Fever alone may not be all that is necessary; other factors may have to be added. We are convinced that the ordinary antiluetic medication is far more effective in the presence of fever. But whatever may be the method of treatment, we are now in possession of an additional means of attack upon the spirochete, as Dr. Ross Moore has so well pointed out, in harmony with the physiological defenses of the body. It will not only achieve clinical results not obtainable by the older methods, but may be used to reinforce and amplify intensive antiluetic therapy. We may anticipate many further advances along these lines.

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WALTER E. LEONARD, M.D. (520 West Seventh Street, Los Angeles).—Doctor Moore is to be congratulated for bringing to our attention the physiological basis underlying the treatment of late syphilis by malaria therapy.

To review briefly, fever may be induced by various substances other than bacterial or parasitic toxins, viz., drugs such as cocaine, certain purins, sugars and diuretics. In these conditions the fever causes a breaking down of tissue cells and increases the osmotic pressure of their protoplasm, and water is therefore attracted into them from the blood, resulting in an increased concentration of the circulating blood. Whereas, an upset of the heat regulating centers of the brain by external heat or electricity will also cause a rise in temperature without change in the concentration of the blood.

Reasoning from the above physiological basis, there seems to be no foundation for the thought that malaria therapy in late syphilis is in any way specific and possible improvement might be attained by other substances.

Persistence in the use of certain synthetic, metallic proprietaries are no doubt indicated in the first stages of syphilis, serving to stimulate the defense mechanisms of the body against the generalized invasion of *Treponema pallidum*. This defense mechanism may be maintained for years under careful management, but once degenerative changes have occurred the method of attack must be changed as indicated in Doctor Moore's paper.

IMMUNIZATION AGAINST DIPHTHERIA WITH TOXIN-ANTITOXIN*

By H. E. THELANDER, M.D.
San Francisco

AT the health center conducted by the American Association of University Women, located on Oak Street, San Francisco, it has been a part of the routine the past several years to immunize baby patients against diphtheria, and to vaccinate against smallpox, before graduating the child to the runabout class at the age of eighteen months.

* From the department of pediatrics University of California and Children's Hospital. Accepted March, 1930.

The toxin-antitoxin has been supplied by the Board of Health from the Cutter Laboratories. It has been obtained fresh and kept in the icebox when not in use. The immunization has been done in the usual manner of three injections of one cubic centimeter each, at weekly intervals, on children seven months or older.

Two years ago it was decided to start a Schick clinic at the center. Since then Schick-testing has been done the last Tuesday of each month and read on the following Friday, that is, at an interval of seventy-two hours. The Schick material has also been obtained from the Board of Health. One-tenth cubic centimeter of toxin (1/50 M. L. D.) has been injected intradermally into the right forearm, and one-tenth cubic centimeter of control material into the left. The readings have been recorded as one, two, three, and four plus; one plus representing a faint reaction over that of the control and a four plus a severe reaction such as is seen in a nonimmune person, two and three are the grades between. I did the Schicking and the reading of the reactions myself, and my interpretations were checked by Dr. W. H. Kellogg and Miss Stevens of the State Department of Health.

SOME TABLES FROM THE ANALYSIS

An analysis has been made of the cases Schick-tested up to January 1, 1930. This preliminary report on the results of immunization against diphtheria with toxin-antitoxin at a "well baby" health center is presented in order to stimulate interest in the present status of diphtheria immunization.

The ages of the children tested varied from fifteen months to six years. Several of the older children had had their injections of toxin-antitoxin at other places than our clinic.

The results of the 164 cases are recorded in Table 1.

TABLE 1.—Reactions in Total Series

Reactions—	Cases	Per cent immune
Negative	115	70.1
One plus	17	10.4
Two plus	27	16.1
Three plus	3	1.8
Four plus	2	1.2
Total	164	

Only 70 per cent of our group were negative, and even if those giving a one plus reaction become immune in a month or two it still raises the figure to only 80.5 per cent.

Table 2 was arranged according to the interval elapsing between immunization and Schick-testing to see if a longer interval than six months gave a higher percentage of immunes.

TABLE 2.—Interval Between Injections and Schick Test

	Cases	Per cent immune
Six months	81	70.3
Seven months to one year	35	83.
Over one year	36	66.

The cases over one year include the older children, many of whom were not given the injections at our clinic. This probably explains the low percentage of negatives in this group. Since, if there is no record of the injections, there is always the possibility that they were not given or that the series was incomplete or poor material used.

The first two figures represent our own group, and the longer interval of seven months to a year gives a considerably higher per cent of Schick negatives than the six-month period.

In the clinic, immunization is started at a younger age than is the usual practice in a private office. Table 3, therefore, was arranged according to the age at which the injections were given.

TABLE 3.—Age at Which Injections Were Given

	Cases	Per cent immune
Under ten months	51	80.4
Ten to fifteen months	42	88.1
Fifteen months to two years	29	72.
Over two years	39	43.6

The results are interesting but the cases too few to be very significant. We hope to report later on a larger series. In this table also it will be noted that the older group, many of whom had their injections outside the center, drops very low in its percentage of Schick negatives.

In our private practice we average 86 per cent Schick negative after three injections of toxin-antitoxin.

REPORTS OF OTHER WORKERS

For comparison I wish to give a few figures from other workers. Zingher¹ in 1921 stated that 95 per cent of Schick positives become negative by toxin-antitoxin injections. Schröder and Park,² in 1059 cases immunized and Schick-tested, at the end of six months found 88 per cent were immune. The Dicks, 1929, found that on Schick-testing adults who had had three injections of toxin-antitoxin at other institutions, only 24 per cent were immune. They therefore gave five injections—the first, one-half cubic centimeter and the remaining four, one cubic centimeter each at weekly intervals, and then had only 85 per cent Schick negative. The report of the League of Nations³ Survey in 1924 gives 80 to 90 per cent as the number of Schick negative after toxin-antitoxin injections.

The figures given in this paper also fall within these limits of 80 to 90 per cent. These figures I think represent more accurately the present percentage of children in private or well-controlled groups rendered immune by three injections of toxin-antitoxin than the earlier figures given by Zingher.¹ Whether or not this lower figure is due to methods of preparation or whether other factors are concerned is beyond the scope of this paper to discuss. In less well-controlled groups the figure undoubtedly is much lower.

EFFECTIVITY OF TOXIN-ANTITOXIN

To further substantiate the evidence that our toxin-antitoxin immunization is not so effective as it should be, and is generally assumed to be, is the fact that at the Children's Hospital the past year there have been forty-four cases of diphtheria with five deaths (11.5 per cent mortality), and of this group, eight cases with one death (12 per cent mortality) had had toxin-antitoxin six months to two years previously, in one case two series. None, however, had been Schick tested.

The occurrence of these cases the past year was surprising and disconcerting, because it is a

larger number than has occurred in all the previous years at the hospital. It may represent an increase in virulence of the organism. An epidemic of severe diphtheria would be the crucial test of the effectiveness of our present methods of immunization.

It is the experience of all using toxin-antitoxin that local or general reactions except for very slight ones are rare. Slight induration at the site of injection or a little brawny desquamation occurs at times. Therefore when we had eight children from the center report back last fall because of severe reactions, an immediate investigation was started. The reactions all occurred from one lot of toxin-antitoxin. The lot number was referred for investigation. In careful experimentation, carried on by both Doctor Kellogg and Doctor Foster of the Cutter Laboratories, it was found that this lot of toxin-antitoxin had undergone a certain degree of dissociation and showed an increase in toxicity over the original stocks. Furthermore, this apparently had occurred under circumstances of normal storage and use, and not as a result of freezing as has been the case in other reported instances of dissociation.

SENSITIZATION TO HORSE SERUM FROM TOXIN-ANTITOXIN

There is one other point I wish to mention at this time, namely, the question of sensitization to horse serum by the use of toxin-antitoxin. There is considerable disagreement in the literature. The reports of Hooker,⁴ Waldbott,⁵ and Stewart⁶ indicate that a sensitization does occur, whereas those of Bauer and Wilmer,⁷ and Spicer⁸ contradict it. Park's⁹ investigation led him to the conclusion that a very slight sensitization may occur. Most of the work is based either on skin tests before and after toxin-antitoxin or on reports of serum diseases occurring on the injection of horse serum for scarlet fever, tetanus, meningitis, and pneumonia in children having had previous toxin-antitoxin. The case reports are not well controlled since frequency of serum diseases varies with different preparations of horse serum and undoubtedly is higher with scarlet fever and tetanus antitoxin than with diphtheria antitoxin.

SUMMARY OF SERUM REACTIONS

A summary, therefore, of the serum reactions in a group of cases receiving diphtheria antitoxin after toxin-antitoxin injections and a control group receiving the same type of antitoxin but without previous toxin-antitoxin is given in Table 4.

TABLE 4.—Serum Disease, With and Without Previous Toxin-Antitoxin

Toxin-antitoxin	No. cases treated with diphtheria antitoxin	No. with serum disease	Per cent
No previous toxin-antitoxin	169	15	9
Previous toxin-antitoxin	12	12	100

In a series of 169 cases treated with diphtheria antitoxin who had not had previous toxin-antitoxin there were fifteen cases of serum disease, or 9 per cent. All the reactions came after five to eight days' incubation and were mild and tran-

sient. In twelve patients receiving diphtheria antitoxin who had had previous toxin-antitoxin, twelve had serum disease, one other patient died in forty-eight hours after treatment or before serum reaction necessarily manifested itself. The incubation period of the serum sickness was often very much shortened, occurring as early as twelve to twenty-four hours after the injection in five cases. In one case the child had a marked urticaria forty-five minutes after the preliminary cutaneous test and one injection of one-half cubic centimeter subcutaneously; five days later he had a typical serum disease. The duration of serum symptoms lasted longer; in two patients severe urticaria recurred with short intermissions over a period of ten days. Symptoms, especially the urticaria, were very annoying. Fever and skin manifestations were the most common findings, and painful swollen glands and joints came next.

In none of these cases did we feel that careful administration of antitoxin was fraught with danger and in no case were the symptoms those of acute anaphylactic shock, but an undoubted sensitization had occurred.

POSSIBLE CAUSES OF NONIMMUNIZATION

Since both by the Schick reaction and the incidence of diphtheria in immunized children it is evident that a high percentage of children are susceptible to diphtheria after the toxin-antitoxin injections. I wish in closing to mention a few possible causes for this high percentage of non-immune.

1. The toxin-antitoxin now in use may be less potent than that used by Zingher and other earlier workers. Reactions from injections discourage the procedure, and to avoid such reactions it is possible that the mixture is too weak to be effective.

2. The material deteriorates when kept at room temperature or unduly exposed to light. When placed in the hands of a large group of workers, many nonmedical, it is possible that deteriorated material is being used in some centers. Since the results are not checked by Schick tests, this is not likely to be detected or corrected.

3. On Schick-tested individuals errors may occur due to deterioration of toxin or to improper injection of the material; the latter is especially apt to occur in young children who resist the procedure and whose skins are thin and intradermal injections difficult. Unless one is fully aware of the significance of the test it is easier to let the child go with a first attempt even though unsatisfactory than to struggle to repeat it. Another source of error lies in doing single Schicks. If a dozen or more are done at one time, usually one or more positives occur which check the potency of the material.

4. Finally, a certain percentage of individuals are highly refractory to immunization, and this group instead of being partially protected by a series of toxin-antitoxin, as is generally assumed, may be individuals particularly susceptible to diphtheria.

In few diseases has so satisfactory advancement been made as in the treatment and prevention of

diphtheria. If present results are not so good as early investigations warranted, a reexamination of our methods is indicated.

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REFERENCES

1. Zingher, Abraham. Department of Health of City of New York, No. 94, January 1921.
2. Schröder and Park. J. A. M. A., pp. 1932-1935, October 27, 1923.
3. League of Nations. Prophylaxis of Diphtheria C. 169 M. 45.
4. Hooker, Sanford J. Immunol., p. 7, 1924.
5. Waldbott. J. A. M. A., xc, 290, 1928.
6. Stewart, A. C. J. A. M. A., lxxxvi, 113, 1926.
7. Bauer and Wilmer. J. A. M. A., lxxxvi, 942, 1926.
8. Spicer. J. A. M. A., xc, 1778, 1928.
9. Park, J. Immunol., ix, 17, 1924.

RURAL OBSTETRICS*

SOME COMMENTS ON ONE THOUSAND DELIVERIES

By J. H. Peck, M. D.
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DISCUSSION by T. B. Beatty, M. D., Salt Lake City; Ralph J. Thompson, M. D., Los Angeles; Lyle G. McNeile, M. D., Los Angeles.

SOME of the lay journals of the United States seem to be whipping themselves into a frenzy over the poor expectant mothers. The contributors to these lay publications elaborate on the great danger the mothers go through, the enormous cost of bringing the new citizens into this world, and according to most of these writers these faults are largely laid at the feet of the doctors. Some medical writers, by way of variety, blame the general practitioner for all of it.

If these contentions are true it is time we took stock, for there is a wide variation between present reported, and ideal mortality rates. With this thought in mind, I have gone over my own and also the obstetric records of my associates, Doctors Marshall and Aldous, for the last ten years. In this paper I wish to submit our statistics in proof that the country woman is not so badly off as she has been pictured, and that the country doctor should not be blamed for all of the bad results in obstetrics.

SCOPE OF THIS ANALYSIS WHICH INCLUDES ONE THOUSAND OBSTETRICAL CASES

This paper will present a discussion of home delivery procedures, meeting obstacles that come up under such conditions, with particular reference to actual experience in what might be called a cross section of the general population of a state presenting social and economic environments such as are found in Utah.

Number of Patients Included in This Analysis. This report covers one thousand deliveries, in which series there was the loss of one mother. The patients who required hospitalization are included, though we did not do the work of actual

delivery. There were five such patients who were sent to the hospital.

Complications.—One patient died because of premature separation of the placenta at eight months, there being no dilation and the patient being pulseless when we saw her. There were two complete lacerations in spontaneous vertex deliveries, blotting paper type. There were three in breech deliveries, all primiparae. Four with satisfactory repair, one with some sphincter unreliability. Two sections were done in women with grossly deformed pelvis. Two patients with severe infections were sent to the hospital, one of the patients having a pelvic abscess and the other a septic type of infection; both patients recovered. One antepartum fever patient and one preclampsic patient were sent to the hospital, but each had a normal puerperium and a live baby. There were twelve patients who required uterine packing for control of hemorrhage. Five patients had breast abscesses in the first six weeks after delivery.

There were no deaths from abortions or miscarriages in our experience, but we have not included such complications in this report, as we wished to record statistics for only full-time patients.

As near as I can judge, 10 per cent of the patients required versions, forceps, or other obstetrical operations. I have no record of morbidity among these one thousand patients, but think about 75 per cent of the patients could be so included if we took a temperature of 99, or a pulse over 80 as the deciding factors.

CONDITIONS UNDER WHICH THESE WOMEN WERE CARED FOR

With the exception of five hospital patients already noted, these patients were delivered in home surroundings, such as in homesteaders' dirt-floored cabins, or in Japanese boarding houses, or wherever we found them. All races except negroes seemed to be included, for a smelter mining town draws all classes and types of workers. These patients were scattered over one hundred square miles of Tooele County, but most of the patients lived in Tooele, which is a community of about five thousand population.

We have never been called upon to treat a patient with eclampsia.

There is a scale in our office and each woman was weighed, and a urine specimen was examined every three weeks up to the seventh month, then every ten days. This work was done by the office nurse. If a patient showed any abnormality, she was told to wait for examination by one of the doctors.

The usual examination was made when a patient first called at our office. Her normal weight was ascertained; and if she added more than twenty-five pounds to that weight before her delivery time arrived, she was politely told by the nurse that she need not return, as she had broken her contract with the doctors. Under such conditions we found that the patients were generally

* Read before the Salt Lake County Medical Society, Salt Lake, Utah.

back in a week with the necessary poundage practically off. We have never lost a patient by this method, but have gained a good many through the advertising which a fasting primipara broadcasts. Because of the high incidence of goiter in Utah, these patients were given iodine all through pregnancy and were warned against sexual intercourse after the sixth month, and given such other advice as seemed called for in special instances.

SPECIAL PREPARATIONS FOR DELIVERY

Two weeks before delivery each patient sent to our office a bundle, consisting of one sheet, three diapers, one pound of cotton, and five yards of gauze. The cotton and gauze were worked up into vulvar pads and packed in a paper sack so that when one was removed it was only handled in one place, and the side so handled was placed away from the vulva. The whole bundle was wrapped in paper and placed in the office sterilizer and kept at fifteen pounds pressure for thirty minutes. The sterilizer used was a thirty-dollar national type, and could be used on a hot plate, a heating stove, or a gas jet. The bundle was labeled and put in a storage room in our office, and if not used at the time expected, it was re-sterilized. This work was done by our office nurse.

At the time of delivery we were accompanied by a trained nurse if one was available; if not, by some handy woman. If the nurse attended, the patient was charged \$5 extra for her services.

We carried in addition to the usual rubber gloves, gown, etc., one pair of short and one pair of long-armed rubber gloves, which had been dry-sterilized; some J. & J. uterine packing strips, and several pads of sterile sponges which were prepared by our office assistant. If the patient was a primipara, she was examined per rectum and, if labor was not progressing too fast, was given one-eighth grain of morphine in an H. M. C. tablet, in a two cubic centimeters of 50 per cent magnesium sulphate solution. This treatment usually insured us all a peaceful night, and we were practically certain that the head would be resting on the perineum when the doctor arrived six hours later, or sometimes in the bed, if we were a little slow in starting our automobile. The patient was prepared at the first visit by the nurse and gloves were boiled, so we lost no time upon arrival. In immediate preparation for delivery the patient was shaved as gently as possible. The vulvae were painted with a two per cent mercurochrome in 50 per cent alcohol. We did not wash the vulvar tissues, no matter how dirty, because of the danger of infecting the vagina with dirty water.

METHOD USED IN THE DELIVERIES

An ordinary Kelly pad was placed under the woman, with ten or twelve thicknesses of newspaper over it, so that if the bag of waters broke the bed would not be soiled. When the head appeared at the vulvar orifice, fresh papers and a sterile diaper were placed in the pad and a sterile sheet was draped over the woman; and another

sterile diaper was placed on some papers on the other side of the bed within easy reach for the reception of the baby. Chloroform was used exclusively on account of the frequent close proximity of heating stoves, and we gauged the amount of chloroform used by watching the drops poured on the mask. We tried rectal anesthesia and gas, but have almost given them up because of the extra attendance necessary to make them successful, and because a blue baby is hard to explain to others when it is shown in the home of the patient. When the labor was rapid, we also used chloroform while the head was passing through the cervix, in order to avoid cervical tears. When the head was about ready to deliver in primiparae, we did a double lateral episiotomy of only one-fourth inch depth through the skin and mucous membrane, which gave us much more room at the outlet. The small size of the episiotomy made unnecessary the use of stitches. The head was delivered under complete anesthesia. A hypodermic injection of pituitrin was administered to all patients at once.

When the baby was delivered it was placed on the sterile diaper, the cord was tied, etc., and the infant was taken away from the bed. A slop jar was placed near the foot of the bed, and an ordinary china cup, which had been boiled, was placed in the pad to catch the discharges from the vulvae. These were dipped up and poured in the slop jar, thus giving us an accurate check on the amount of blood lost. After an interval of fifteen minutes, a newspaper was placed over the top of the slop jar and the placenta was delivered, if ready, and was placed on the papers. This procedure broke the sterile technique, because both hands were now contaminated. After this procedure, the fundus of the uterus was held for another fifteen minutes, the woman meanwhile having been given a dram of ergot by mouth. If any other work was indicated, such as stitches, or arresting of bleeding, the extra pair of dry sterile gloves were used.

After we were sure of the postpartum action of the uterus the gloves were removed and the baby's eyes were treated with a one per cent silver nitrate solution and the cord was inspected. The attending doctor's gown and mask were clean but not sterile (short-sleeved gowns being used). The nurse usually had the baby dressed by this time, and if she was an untrained helper she was shown how to apply a vulvar pad, without contamination, and was instructed in the usual method of cleansing the vulvae without the use of washrags. As helpers or assistants we insisted on having women who had been trained by ourselves, or women who knew absolutely nothing about deliveries, for we found a little learning to be a dangerous thing.

Laundry was a real item in this work and in most instances two diapers and one sheet were the extent of it, which created a good impression on the housekeeper.

The mothers were up on a back rest the second day and were permitted out of bed when the

fundi could no longer be felt. The mothers were given instructions to exercise extensively in knee, chest, and monkey-walk positions. Breasts were left entirely alone, except for binders, and exposed to air as much as possible and bathed with boric acid solution before and after nursing. The importance of a postpartum examination was stressed, both for the benefit of the patient and also to permit us to check our results at the sixth week. And last, but not least, at that time it was a good occasion to settle the account for professional services which had been rendered.

COMMENT

We did vaginals of course, when necessary, under the best technique possible; and used forceps if the progress of the head was arrested for an hour, as we preferred forceps to pituitrin, believing that women are better off than to have the presenting parts pound away for hours until the mother is completely exhausted. All perineal tears were sewed up at once, but we never touched a cervix except to examine it when persistent hemorrhage was present.

I might add, considering the great cry which is nowadays made about the cost of medical care, that the charges per baby (including nursing, doctor, housekeeper, and incidentals), rarely exceeded the sum of \$65.

CONCLUSIONS

On the subject of obstetric practice in rural communities such as I have described, I have arrived at the following conclusions:

Every young physician starting to do general practice, and particularly obstetrics in rural communities, should be associated with an older physician who has had a large experience along that line. I feel that my association with older men in my early years of practice was of inestimable value to me; and in turn I have been able, I hope, to counsel the young men with whom I have been associated to their advantage, because I believe that even our present-day system of a general intern year does not give sufficient preparation for this kind of work.

Any country doctor, if he is practicing obstetrics because he likes the work (and not because he must in order to hold his families), can show results in low mortality rates that will measure up most favorably to the rates in general hospitals. For, as I see it, other things being equal, a woman's own bed is not at all a bad place for her in which to have a baby.

DISCUSSION

T. B. BEATTY, M.D. (Health Commissioner, State of Utah, Salt Lake City).—Doctor Peck is to be congratulated on the remarkable showing set forth in his report of one thousand deliveries with a single maternal death. The results are the more striking when the statistics of maternal deaths in Utah are taken into consideration. The official records of the State Board of Health show that the average urban death rate (cities exceeding 10,000 population) for the five-year period, 1918 to 1922 inclusive, was 9.8 per 1000 live births. For the five-year period, 1923 to 1927 inclusive, the rate was 7.5 per 1000 births. The

rural maternal death rates covering the same periods were, 1918 to 1922 inclusive, 6.4, and 1923 to 1925 inclusive, 4.2, which was the lowest rate in the United States.

There is certainly food for thought in the comparison. Doctor Peck seems to have solved the problem of making childbirth safe for mothers in rural districts. His technique is rational and leaves little to criticize, as proved by the results. While it must be admitted that conditions in a well-conducted maternity hospital are more convenient and favorable for safeguarding the mother, Doctor Peck has demonstrated that it is not essential, and that the most important factor is a qualified medical attendant and the proper technique. I question whether the average general hospital affords as favorable conditions as home care in the hands of a competent obstetrician.

In my opinion the educational activities in behalf of maternity and infancy that have been carried on by the Utah State Board of Health for a seven-year period, aided by funds received from the federal government, have been a distinct factor in the 35 per cent reduction of the rural maternal death rate. Many expectant mothers have been reached by monthly letters covering advice appropriate to each month of pregnancy, in which the importance of early consultation with the attending physician and proper hygienic measures have been stressed.

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RALPH J. THOMPSON, M.D. (College of Medical Evangelists, 312 Boyle Avenue, Los Angeles).—Doctor Peck's article on rural obstetrics is most interesting, and his technique of handling these cases in the homes good. Apparently the end results measure up favorably with those of any well-equipped and organized hospital.

One of the best parts of this paper is the results obtained from the regular routine prenatal care. The fact that they have not treated a single case of eclampsia in the past ten years is without question due to these periodic examinations of the urine, and careful weighing of each patient, with the proper instructions as to diet.

The author's description of the special preparations made for each delivery in the home and the careful technique followed is surely responsible for his low morbidity record. The anesthetic used exclusively being chloroform on account of the close proximity of the heating stoves in the home is a good practice, although I believe ether for obstetrical anesthesia would probably be just as safe an anesthetic if properly handled, even under these conditions. I believe Doctor Peck is right in considering that rectal anesthesia requires extra time and attention, and I believe that this type of anesthesia should not be given to the patient in the home unless a skilled attendant is present to watch the progress of labor. The double lateral episiotomy of one-fourth inch depth which he uses in primiparae no doubt prevents deeper lacerations, but I believe the tissues should be approximated by the proper sutures.

I would consider immediate care of the baby's eyes of most importance, and this can be done in every case, even before the cord is ligated, while the child is still on the bed, or across the abdomen of the mother. As the usual custom is to wait for the pulsation of the cord to cease before it is ligated, it is well to properly cleanse the nose and throat of the child of all mucus and treat the eyes immediately.

As Doctor Peck's paper did not deal with infant mortality, we are not able to say what injury the child suffers by the hypodermic injection described. One would naturally expect to find not infrequently rather deep lacerations of the mother and possibly an asphyxiated child in the bed, if handled in this way.

Doctor Peck is to be highly complimented on this very good paper, and were all maternity cases in the homes cared for in as careful a way there is no question but that the results of these deliveries would measure up very favorably with those of any of the general hospitals.

LYLE G. MCNEILE, M. D. (Director Los Angeles City Health Department Maternity Service, Los Angeles). This paper reports a series of patients delivered in the home, not under favorable conditions, but nevertheless with an extremely low morbidity and mortality. The results are an example of what can be done in rural obstetrics. The author and his associates have carefully considered every modern discovery and aid which is commonly accepted, and with great ingenuity and common sense have adapted them to the conditions under which they work. This is a paper which can be read with advantage by any practitioner who practices obstetrics.

The Los Angeles Maternity Service, an out-patient obstetrical service cooperating with the Los Angeles City Health Department and organized for the purpose of caring for needy women in their own homes, operates under practically the same conditions. Doctor Peck has emphasized routine urinalysis, and the prevention of too rapid gain of weight during pregnancy as the greatest factors of prenatal care. We feel that in addition to these very important measures the blood pressure should be taken at each regular visit. We believe that a Wassermann test should be done on every obstetrical case. Doctor Peck has not stressed the necessity of a complete physical examination at the first visit. The time consumed in a careful examination of the nose, throat and teeth, heart, lungs and pelvis is small as compared to the satisfaction in "picking up" those focal infections which are probably the most important factors in the etiology of certain toxemias of pregnancy, cardiac and lung conditions which are adversely affected by pregnancy, and pelvic conditions which are likely to seriously affect the course of labor or the puerperium. The author points out that it is absolutely essential that the patient be seen at regular frequent intervals during pregnancy. It is extremely bad practice to fail to insist that this be done.

Doctor Peck in his technique has provided for sterile supplies for every patient. We furnish similar supplies in copper containers, which are cleaned, refilled and resterilized when used. We do not believe that the mercurochrome used in Doctor Peck's preparation has any effect because of the large amount of surface fat on the tissues of the vulvar region. Careful observations and controlled cases have demonstrated to our satisfaction that a 3½ per cent tincture of iodine preparation, sponged off with iodine-alcohol, is more satisfactory.

While there is a widespread feeling in the United States against the use of chloroform, I feel that its danger has been greatly overestimated. It should not be used if there is any evidence of toxemia, or in the presence of cardiac or renal complications. I agree most heartily with Doctor Peck that, except under unusual conditions, pituitary extract should not be used before delivery on account of the danger of injury to both the baby and the maternal soft parts.

In the United States twenty-five thousand women die annually from the results of childbirth. Competent observers believe that the basic method used to reduce this high mortality must be early complete examination and supervision during the whole period of pregnancy combined with conservative and aseptic care during labor and adequate after-care. The Los Angeles Maternity Service, caring for poor women in their own homes, under the most adverse conditions, during the first ten years gave prenatal care to 14,155 patients and delivered 7285. The maternal mortality was one death in 910 deliveries. The infant mortality was one death in twenty-three deliveries (this including all stillbirths, and all deaths during the first ten days). All premature babies from the fifth month of pregnancy were included. The technique and methods used were very similar to those described by Doctor Peck.

PEPTIC ULCERS—DIAGNOSIS AND TREATMENT*

By PHILIP KING BROWN, M. D.
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SO much direct and indirect criticism of medical treatment of peptic ulcers has been indulged in recently that I wish to point out the confusion which has arisen over the misuse of the term "medical treatment," and to show, from the statistical studies of peptic ulcer treated in the Southern Pacific Railroad Hospital, that when properly carried on, medical treatment of uncomplicated ulcer is the method of choice; and, on the other hand, that many of the complications cannot be considered amenable to treatment by any method but surgery. The important point in the situation is the matter of complete diagnosis and a clinical investigation into the part played by the complication in preventing cure or contributing to recurrence.

ETIOLOGY

There is no direct proof of the etiology of chronic peptic ulcer in man. It has not been difficult to produce acute ulcer by experiment in animals and, although these ulcers are quite unlike those found in man, the presumptive evidence is full of suggestion as to etiology of chronic ulcers in human beings.

In 1903 Lorenzi noted hemorrhage in gastric mucous membrane in animals whose pneumogastric nerves were sectioned below the diaphragm, and if the animals survived over twenty-four hours, mucous erosions were found. Sarlta later showed that adding three per cent hydrochloric acid resulted in these erosions becoming ulcers.

Van Yzeren in 1901 reported such pneumogastric resection in twenty rabbits, with the occurrence of chronic pyloric ulcer in ten. Seven of the remainder died within five days, whereas ulcer developed in the earliest of those who survived, in seven days.

Ophüls of Stanford repeated these experiments on thirty rabbits and found ulcer developing in one rabbit after twenty-four days. The twelve examined before that showed no ulcer, whereas one-third of those examined after twenty-four days had ulcers.

More recently, Singer¹ has discussed injury to the vagus as a cause of duodenal ulcer and the rôle of affections of the vagus in the development of gastric ulcer.

Rodov² has presented an illuminating discussion of the biological relation of gastric ulcer and the vegetative system. Roller from his work in Ortner's clinic confirms Pollak's findings of ulcer as a sequence to vagus disease in the course of chronic encephalitis and reports ulcer from vagus inflammation from proximity to tuberculous mediastinal glands, in the gastric crises of tabes where it is common, and in a case of in-

* From the records of the Southern Pacific Hospital, San Francisco.

² Read before the Pacific Association of Railway Surgeons, Reno, Nevada, August 23-24, 1929.

fluenza encephalitis with extensive herpes, all regarded as chronic diseases of the vegetative system.

The significance of these findings may seem remote when we seek to apply them to human beings, but they bear on the defensive mechanics of the gastric and duodenal mucous membrane. Toxic influences on nerves are peculiarly selective and further investigation may bring to light some influence that we do not now see clearly. Furthermore, the danger of ulcer must be borne in mind in considering any interference with the vagi in the surgical relief of bronchial asthma, where recently it has been proposed and successfully carried out that section of the vagus below the recurrent laryngeal be done in protracted cases.

The etiology of peptic ulcer based on pathologic anatomy received earliest contribution from Markel in 1860, who reported finding vascular lesions in gastric ulcer—thrombosis of the pancreaticoduodenal artery.

Hauser, in a monograph published in 1883, further emphasized this and stated that hemorrhagic infarct precedes ulcer formation and always where there is local disease of the blood vessels. There is no development of new vessels in these areas and therefore the chronicity of ulcers in humans in distinction to experimental ulcers in animals.

Omata³ confirmed the chronicity of experimental ulcers by ligating various blood vessels of the stomach.

Ophüls, commenting on Hauser's claim in 1913, calls attention to the fact that hemorrhage in ulcer is not from the erosion of healthy vessels, or venous hemorrhage would be commoner than arterial, whereas it is quite uniformly the case that it comes from thrombosed or sclerotic arteries. That the thrombosis is not secondary to the ulcer is shown by the fact that it extends beyond the confines of the ulcer. In Ophüls' twenty-three autopsy records of gastric ulcer, eighteen were arteriosclerotic in aged persons, four were in young patients with thrombo-arteritis and one was in a young patient with an acute embolus.

These findings have the interesting value of explaining why chronic gastric ulcer is so difficult to treat successfully by medical means.

Rosenau's success in producing peptic ulcer of embolic origin with streptococcus cultures from alveolar abscesses injected into animals is a further step in developing the picture of what directly underlies the beginning of this trouble.

Brites⁴ discusses convincingly the rôle of embolic infarction in the pathogenesis of ulcer.

COMMENT ON THEORIES OF CAUSATION

These theories of the etiology of peptic ulcer are open to criticism and we can safely present only certain generalities bearing on them.

1. Peptic ulcer is a condition of middle-life rather than age, especially in women. In our last one hundred patients, 32 per cent were between the age period 30 to 39, and 34 per cent between the age period of 40 to 49.

2. It is apparently commoner in men than in women, although German statistics show about even distribution.

3. It is almost universally associated with bad dietary habits, sinus and oral sepsis, and diseased tonsils.

4. Some of the conditions which complicate it, appendicitis and cholecystitis, are suggestively connected with oral sepsis, although not either of them necessarily is causatively related to the ulcer.

5. The markedly greater proportion of ulcer cases among male employees than among female employees is strikingly shown in the Southern Pacific Company and the percentage is highest among those whose occupation and hours contribute to irregular and bad eating habits and inability to give adequate attention to daily mouth hygiene or to proper dentistry.

In view of the absence of definitely established etiology and only presumptive evidence of the relation of focal sepsis, it seems important to inquire whether the high rate of medical cures in one hospital may not be due to two important factors—teaching patients what, when, and how to eat, and removing all possible infections in the upper respiratory and digestive tracts.

COMMENTS ON MEDICAL TREATMENT

The somewhat facetious statement of W. J. Mayo, quoted by Douglas,⁵ that the time to operate on a gastric or duodenal ulcer is after it has been cured nine times by medical treatment means simply that such a patient never was completely studied, the complicating conditions were not understood or dealt with, and the bad dietary habits were not changed. Medical treatment should mean the cleaning up of all infections in the upper tracts, a study of the chemical and motor efficiency of the stomach and the satisfying of the examiner that neither gall-bladder disease, pancreatic disease, adhesions from unknown causes, appendix pathology, nor even hemorrhoids complicate the patient's condition. Finally, the patient's occupation, habits of living, marital state, and teachability, all play a rôle in making a permanence of cure in the medical treatment of ulcer. A drunkard is not cured by stopping his drinking, and if you cannot deal successfully with all the factors that influence his taking of alcohol, including a continuous abstinence from temptation, as well as building up a new scheme of living, it is hardly fair to speak of the drunkard as cured. That we rarely have to resort to surgery in the treatment of duodenal ulcer, and then only because of complications, acute or chronic, for which medical treatment has no remedy, is due, in the writer's estimation, to the fact that so-called medical treatment has been too largely the treatment of symptoms and not underlying conditions. In this connection these few laws are laid down in our hospital service, and as yet there has been no single reason to change them:

1. Smoking is interdicted because of the overwhelming evidence in testimony of our patients that it aggravates and even produces pain.

2. Alkaline therapy is absolutely never used. Repeatedly patients come to us in whom ulcer has been diagnosed from typical symptoms and we obtain a history of constant use of soda bicarbonate or calcined magnesia, or both after meals, because they have learned to know that they might thereby avoid pain. The habit is pernicious, for pain is an excellent warning that an ulcer is active and that a dietary regimen is in order. Morphine in appendicitis is the only more acutely dangerous therapy that occurs to me, and woe be to the doctor who obscures his case by unwise use of that drug. The well-treated ulcer patient is a well-trained dietitian, and if he is wise he will live within the confines of what he can eat without pain. The entire absence of pain in a small percentage is well known, and the shock of perforation has been the initial symptom of ulcer in some cases.

3. A single test-meal is removed in all patients that have not the history of recent bleeding. This meal is preceded nine hours by three or four large prunes. The almost universal hyperacidity in uncomplicated cases can be assumed and is not a matter of much moment, but when absent, particularly in gall-bladder complications, it may be very significant. The prune residue, if found after test-meal, is an important indication of retention. The reason for these procedures will be evidence from the discussion of the diagnosis of peptic ulcer.

4. Rectal feeding we have never yet found necessary. Intravenous glucose is used rarely. Transfusion may be invaluable.

5. Rest in bed, especially if any bleeding is going on, is imperative.

SUBJECTIVE SYMPTOMS

The subjective symptoms of peptic ulcer are fairly clean-cut and in very few conditions are they of more importance in making a diagnosis. Most patients, at least 60 per cent, give a history that is quite characteristic. When one hears that for several years there have been periodic attacks, lasting four to six weeks, of pain in a small area, generally near the center of the epigastrium, coming on two to four hours after meals, or immediately after meals; that some foods cause it more commonly than others; that soda or eating relieves it when it comes late after meals; that soda relieves it and food makes it worse when the pain follows soon after taking it, one can suspect at once duodenal or gastric ulcer. The history of sudden weakness with or without nausea, of tarry stools or the vomiting of blood, and finally the occasional relief from change of position is of decided value in the diagnosis of gastric ulcer. Such a history opens the field for the development of corroborating evidence and this should be carried out as far and as often as possible while the patient is in bed. The physical examination may reveal nothing but a little local tenderness in the epigastrium and the usual bad condition of the mouth.

Pain that is characteristically night pain, coated tongue, bad breath, constipation, diffuse abdomi-

nal pain, all call for consideration of complicating conditions. The relative frequency of the chronic appendix with pylorospasm has to be given careful study. The retrocecal appendix when pressed upon may give a referred pain in the epigastrium without tenderness where the pain is felt. The appendix may be attached to the gall bladder or the pylorus as it has been twice in our series. The history of gas in stomach and cecum and as far as the hepatic flexure of the colon should make us suspicious of the gall bladder or of adhesions in the right upper quadrant, interfering with pyloric efficiency. The investigation at this point is contributed to greatly by two things. Simple uncomplicated gastric or duodenal ulcer in a patient resting in bed on a very light, bland diet, given in small quantities at frequent intervals, will cease to cause any pain in a day or two. The continuance of pain should always invite the consideration of complications and the chief of these are chronic appendicitis and cholecystitis with or without adhesions, ulcer at or very near the pylorus, six-hour retention, mucous colitis, or even bad hemorrhoids. Tuberculous peritonitis and tuberculous glands at or near the appendix have twice been found in our series.

VALUE OF AN X-RAY STUDY

The second thing that is important at this point is whether an x-ray study is immediately in order. From it we may expect the following facts to be brought out:

1. Is there a defect in the contour of stomach or duodenum characteristic of ulcer?
2. Does the duodenum fill normally? If irregular, and especially if immovable, pictures are necessary in order to get the details of the defect and to determine its constancy and relation to adjacent parts.
3. Does any irregularity in waves suggest a local defect?
4. Does the stomach empty within six hours?
5. Is the gall bladder visualized in plates made before barium is introduced?
6. Does the pressure of an enlarged gall bladder give a crescentic indentation to the duodenum?
7. Do lateral views of the bulb show the same arborization defect in all the plates?
8. The size of the liver is frequently confirmed in x-ray examinations.
9. The filling and emptying of an appendix and the movability of the cecum may give valuable data. We are inclined to the belief that the visualized appendix forty-eight hours after the barium meal betokens an unhealthy appendix because of its spasticity and is associated generally with a spastic colon, and any visualized gall bladder is open to suspicion.

At this point a word about the modern methods of outlining the gall bladder with tetraiodophthalein and other substances, may be in order. It is my personal experience that these methods have contributed very little to our clinical knowledge. Tetrabromphenolphthalein is a "dose" any way one looks at it or takes it. It is not free from

danger when given intravenously, and is nauseating by stomach. The repeated x-raying is bad, expensive, and in many cases the results are most uncertain. When subjective and objective symptoms and a good history do not direct the proper treatment, the x-ray of the gall bladder after dye rarely does. It is pain, fever, or local symptoms that are our best guides. In a recent case where clinically and twice by x-ray cholecystitis was diagnosed, a third investigator using the dye considered the gall bladder normal. Our clinical sense must not be warped. We have tried the French method of giving 300 grains of bromid, which produces the effect of making the gall bladder more easily outlined. I have found it valueless thus far.

The complaint is made by some surgeons that clinical and x-ray diagnosis of ulcer has resulted at times in failure to find ulcer at operation. There could not have been in such cases any justification for surgery. If x-ray had revealed typical deformity with six-hour retention, a characteristic history of pain after food with occult blood in a milk residue stool, it is foolish to say nothing is wrong. Certainly the case was not properly studied, or the operation properly conducted.

COMMENTS ON SPECIAL SYMPTOMS

1. *Hemorrhage.*—Great care must be exercised in excluding bleeding gums, varices, and hemorrhoids as a possible source of occult blood. It is about five to ten times more likely that blood vomited or found in stool comes from ulcer than from cirrhosis of the liver, and in this latter condition pain is not graphic. A localized hepatitis from diseased gall bladder will give a tenderness that is suggestive and which approaches the finger when the abdomen is pressed upon below the gall bladder. Moynihan and Robeson both call attention to pain produced when the point halfway from gall bladder to navel is pressed upon. Pain, if it does occur, is not characteristically influenced by food.

Hemorrhage from the stomach in chronic appendix condition is not so rare. Moynihan, in his first reference to it, reported it twelve times in cases operated for ulcer of the stomach where only a diseased appendix was found. With a history of clinical findings not characteristic of ulcer and yet with repeated occult blood, it is safe to suspect cirrhosis first and then the appendix. Chronic cholecystitis has also been the cause of gastric hemorrhage, hence the importance of convincing x-ray study, history, and physical examination in any doubtful case.

2. *Pain May Be Deceiving.*—Mace reports diaphragmatic pleurisy on right side simulating ulcer pain, and we confirm this finding. Delayed emptying from adhesions or gall-bladder disease may be accompanied by pain near the pylorus from ineffectual gastric peristalsis. Mucous colitis produces at times a most distressing and baffling picture of gastric disorder, nausea, pain, and tenderness. It has become part of our routine to

TABLE 1.—*Lenhart's Diet*

Day	Calories	Eggs	Milk	Milk Sugar	Scraped Beef	Boiled Rice	Zwieback	Butter	Chicken
1	280	Raw 2	100 cc. (3½ oz.)						
2	470	Raw 3	206 cc. (6½ oz.)						
3	687	Raw 4	206 cc. (10 oz.)	20 gm. (5 dr.)					
4	777	Raw 5	400 cc. (13½ oz.)	20 gm. (5 dr.)					
5	966	Raw 6	500 cc. (16½ oz.)	30 gm. (1 oz.)					
6	1135	Raw 7	600 cc. (20 oz.)	30 gm. (1 oz.)	36 gm. (9 dr.)				
7	1580	Raw 4	793 cc. (23½ oz.)	40 gm. (1½ oz.)	70 gm. (2½ oz.)	100 gm. (3½ oz.)			
8	1720	Soft 4	800 cc. (24½ oz.)	40 gm. (1½ oz.)	70 gm. (2½ oz.)	100 gm. (3½ oz.)			
9	2138	Soft 4	900 cc. (26½ oz.)	40 gm. (1½ oz.)	70 gm. (2½ oz.)	200 gm. (6½ oz.)	20 gm. (½ oz.)	20 gm. (½ oz.)	50 gm. (1½ oz.)
10	2478	Raw 4	1000 cc. (33½ oz.)	40 gm. (1½ oz.)	70 gm. (2½ oz.)	200 gm. (6½ oz.)	40 gm. (1½ oz.) or toast 20 gm.	40 gm. (1½ oz.)	50 gm. (1½ oz.)
11	2941	Raw 4	1000 cc. (33½ oz.)	40 gm. (1½ oz.)	70 gm. (2½ oz.)	300 gm. (10 oz.)	60 gm. (2 oz.)	40 gm. (1½ oz.)	50 gm. (1½ oz.)
12	2941	Raw 4	1000 cc. (33½ oz.)	40 gm. (1½ oz.)	70 gm. (2½ oz.)	300 gm. (10 oz.)	60 gm. (2 oz.)	40 gm. (1½ oz.)	50 gm. (1½ oz.)
13	3007	Raw 4	1000 cc. (33½ oz.)	40 gm. (1½ oz.)	70 gm. (2½ oz.)	300 gm. (10 oz.)	80 gm. (2½ oz.)	40 gm. (1½ oz.)	50 gm. (1½ oz.)
14	3007	Soft 4	Same as thirteenth day.						

have the history of passing mucus looked into and stool of all ulcer subjects examined for mucus.

Benjamin and Schwartz⁶ report angina pectoris with duodenal ulcer, and Doctor Coffey and I have had more than one such case. It must be remembered that the sphincter innervation through the pneumogastric in the body is the same, and pylorospasm from ulcer as well as from gall-bladder disease may cause pain radiation exactly simulating angina pectoris.

The need of a routine Wassermann test was called to our attention many years ago, for we had a surprising number of cases of ulcer in syphilis and found occasionally that the ulcer did not heal satisfactorily until the syphilis was thoroughly treated. We were forced to make exception to the rule that the company does not treat venereal disease, because without antisyphilitic therapy these cases were not relieved. Occasionally hemorrhage from the stomach has been a symptom in these cases where the pain symptoms were not present or not characteristically so, and the x-ray revealed no ulcer. These may be cases of hemorrhage in early cirrhosis.

3. *Fever* is a confusing symptom, rare in uncomplicated ulcer but occasionally reported. Even chills with high fever has been reported, whether from absorption of protein or not is guesswork. In view of the frequency of cholecystitis with ulcer, the intermittent fever of Charcot should be kept in mind. In our experience it is not always accompanied by jaundice.

TREATMENT

Whatever the suspected etiology, rest in bed on Lenhart's or our Southern Pacific diet in all cases during investigation. With Jarotsky's so-called milkless diet of albumen and fat we have had no experience.

TABLE 2.—*Southern Pacific General Hospital Diet for Patients with Peptic Ulcer—"Brown" Diet*

First day: Four ounces of milk every two hours—7 a. m. to 7 p. m. (seven feedings). If patient has night pain on this diet give a feeding next night at 11 p. m. if awake, or leave four ounces of milk at bedside to be taken if pain recurs.

Second day: Add one soft boiled or poached egg twice daily at second feeding and sixth feeding.

Third day: Add milk at noon, fourth feeding. Add cream of wheat morning and night, first and sixth feedings. Increase milk to five ounces per feeding.

Fourth day: May have three eggs during the day, milk toast once and cereal twice. Second, fourth and sixth or seventh feedings. 9 a. m., 1, 5 or 7 p. m.

Fifth day: Continue seven or eight feedings of the above foods, from 7 a. m. to 7 or 9 p. m. through the fourteenth day, increasing gradually the number of eggs to six and the amount of milk toast and cereal. Scraped meat, broiled slightly, with no pepper may be substituted in equal volume for eggs, after stools have become negative for occult blood any time after the seventh day.

On and after the fifteenth day the patient is given puree of vegetables, or cooked fruit, the "increased Lenhart."

On the seventh day and thereafter, increase milk to seven ounces if patient has no symptoms. In case the patient has pain other than referred to on the first night, hemorrhage, retention at six hours or other complications, the staff man will prescribe the proper diet and ask for surgical consultation.

Milk should be taken ice cold and with a tablespoon if patient has been bleeding or if there be much pain.

The full amount of milk need not be taken if patient does not wish it, nor should the rest of the diet be given in these amounts if patient is satisfied with less.

Do not smoke. Move bowels every other day with enema and send small amount to laboratory until twice negative for occult blood. After bleeding ceases, milk of magnesia may be used instead of enema.

Time will be saved if patients stay strictly in bed. This is imperative if there should be any occult blood.

Test-meal in cases where no hemorrhage has occurred within a week. Precede this the night before with prunes so as to get a line on retention. The chief value of the test-meal is to help weigh any complications. An x-ray study is in order if available, especially in suspected gastric ulcers which are potentially surgical. If a good x-ray examination cannot be secured, the prune residue is a valuable hint and the clinical evidences of complications can be found if carefully enough looked for.

Bleeding is not regarded as counterindication to Lenhart's diet. If extreme, it calls for immediate medical treatment. Ewald has advised lavage with ice water. Personally, we use calcium chlorid intravenously, five cubic centimeters of a 10 per cent solution obtained in ampoules and followed by one of the coagulating adjuvants like whole blood, thromboplastin, etc. I have once successfully resorted to strong adrenalin solution poured through a stomach tube inserted to wash out masses of decomposing clots. The adrenalin was washed out with ice water after a few minutes.

Transfusion not only helps to check bleeding but prepares the patient for the possible need of surgery for tying off the bleeding vessels. We have dealt with a number of patients brought in with 20 per cent hemoglobin and 1,250,000 red cells. Since the introduction of transfusion none of these have died.

Retention evidenced by the distress, lack of appetite, loss of weight, nausea, vomiting, etc., and confirmed by x-ray, does not necessarily call for surgery. Cleaning out such a stomach and the Lenhart diet will usually reduce the retention steadily. Our plan is to recheck in twelve days with gradually increased diet. As much as a 50 per cent retention from ulcer has disappeared in that time. A few cases, not good operative risks, have had the rest and diet continued a month or even more, and we are gratified to find that it is worth while often enough to give it serious consideration.

Burning and acidity in uncomplicated cases correct themselves almost at once on the Southern Pacific or Lenhart diet. If they do not, look for complications. In a recent case of a young man, we could detect no complication by any investigation and even resorted to belladonna, and alkali with indifferent result, when he had a typical gall bladder night pain which cleared the situation. A second case was relieved at once by dealing with the wife who was a scold and whose visits were followed by marked hyperacidity. So great is my prejudice against the Sippy diet, its use of alkali, and of stomach or duodenal tube to remove secretion, that I feel it the worst possible regimen on which to put an ulcer case. Who ever heard of a surgeon sticking a stomach tube down a patient as a routine after a gastro-enterostomy or poking in soda and magnesia? It is a good motto to let well enough alone. Most ulcer patients have learned to use soda to relieve their pains, and it is a dangerous practice. How much more rational and simple to deal with the underlying condition.

Rechecking the gastric secretion after *all* symptoms have disappeared has borne out the wisdom of this procedure. The hyperacidity in uncomplicated cases disappears with the pain and also the occult blood as the ulcer heals.

Gastric ulcers are the common meeting ground of physician and surgeon. I have said above that they are potentially surgical, but since the introduction of protein therapy (and we have used sterile fat-free milk) we have had such good results in gastric ulcer patients that I am inclined to reserve the favorable cases for such treatment. If the ulcer crater as shown on x-ray plates is not too large and the stomach empties normally and occult blood disappears in two weeks and the crater itself gets steadily smaller, I would defer surgery. Marten⁶ has reported on milk injections as they have influenced symptoms and progress.

It is obvious that as the etiology of peptic ulcer in human beings is still a good deal uncertain in spite of certain definite evidence in part of the cases studied we cannot base therapy on etiology. It is reasonable in any event to remove all foci of infection and to prescribe a less stimulating and irritating diet. For the healing process we are dependent upon the well-established fact that mucous membranes show a remarkable tendency to heal if given any sort of chance.

An explanation of the tendency to recurrences may be found in what is established in etiology. If vagus neuritis from infection be a cause, then unless the vagus returns to normal we may expect recurrences. We cannot hope to cure the arteriosclerotic ulcers of the aged by medical means, nor can we expect to see regeneration of an area where necrosis results from thrombo-arteritis. If the involved area be small, it is conceivable that healing may take place. Hurst⁷ suspects cancerous change if the blood continues and the crater, after a month, is unchanged. R. Schmidt long ago called attention to Boas Oppler bacilli in the stool of these cases even when the gastric content still contains free HCl, and we have confirmed this finding.

Finally, clean up the infections as fast as possible, and begin teaching dietetics early. The men who live in restaurants, eat irregularly and what they like, especially when tired, neglect their infections, who overeat and react badly to worry and strain are poor medical patients, but they make up the surgical failures quite as often.

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REFERENCES

1. Singer. Arch. f. Verdauungskr., 43, 410-25, March 1928, and Wien. med. Wchnschr., 78, 433.
2. Rodov. Klin. med., 6, 643-8.
3. Omata. Virchows Arch. f. path. Anat., 269, 797-902, 1928.
4. Brites. Compt. rend. Soc. de biol., 99, 951-2, September 1928.
5. Benjamin and Schwartz. J. Med., 9, 76-9, April 1928.
6. Marten. Arch. Int. Med., 43, 299-325.
7. Hurst. Guys Hosp. Rep., October 1925.

THE LURE OF MEDICAL HISTORY

THE WILLIAM BEBB COLLECTION OF PRINTS OF PARIS HOSPITALS*

By EVA WEST
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IN the field of medical history there are endless opportunities for the satisfaction of almost any collector's fancy. Pictures, expressing so much more readily than words could ever do, are being more and more appreciated as desirable items in medico-historical libraries. Many notable collections of prints relating to medical history are to be found in California, among which may be mentioned those of Dr. LeRoy Crummer in Los Angeles, Dr. Herbert Evans in Berkeley, and Dr. William Kerr in San Mateo. To these should be added the interesting collection of prints relating chiefly to French hospitals deposited by Dr. William Bebb of Elkhorn, Wisconsin, in the University of California Medical School Library, San Francisco.

The Bebb collection includes about twenty prints of English hospitals and one or two of old American hospitals, but it is especially rich in material relating to the great hospitals of Paris. Practically every important hospital in Paris is represented not only by century-old prints of floor plans and elevations, but also by engravings, etchings, and lithographs of interior and exterior scenes associated with the buildings and grounds about them.

About 1810, H. Bessat apparently made a series of drawings combining general ground plans with front elevations of the leading hospitals of Paris. Engraved by Thierry, this series is especially well represented in the Bebb collection. A later group of scenes connected with the various hospitals was made by T. Guerin and engraved by C. Detrich for the purpose of illustrating a series of magazine articles on the Paris hospitals. There are a few early engravings of the seventeenth and eighteenth centuries included in the collection.

One of the most remarkable items in the Bebb collection is the original floor plan to scale of one of the provincial hospitals designed in 1809 by Comber for Bordeaux. The characteristic arrangement of the Parisian hospitals of this period, in the form of low buildings about large open courts, was apparently preserved, as this sketch shows, in the provinces. The space assigned in the building to the different types of service is clearly indicated, and careful arrangements seem to have been made for proper hygienic management.

THE LEADING CHARITY HOSPITALS OF PARIS AS ILLUSTRATED IN THE BEBB COLLECTION

L'Hôtel Dieu.—L'Hôtel Dieu of Paris is one of the oldest hospitals in the world, being founded

* This note was prepared from descriptive cards made by Miss Eva West for use in exhibiting the collection, and was edited for publication by Chauncey Leake and Sanford Larkey.

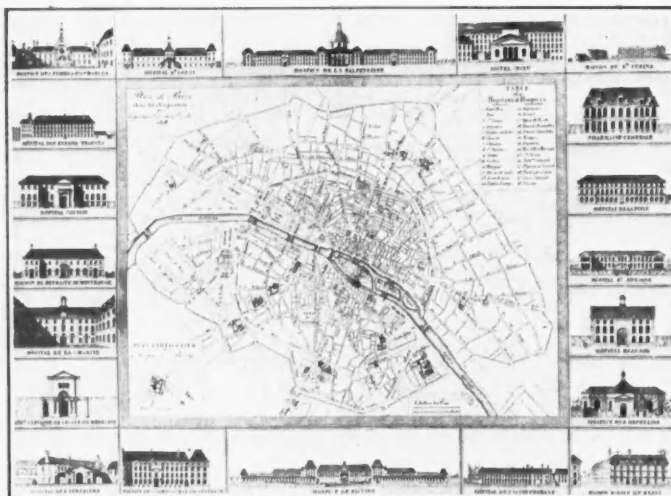


Fig. 1.—Map of Paris in 1818, showing locations and elevations of the leading hospitals of the city at that time

in 651, when the treasures of the Church were sold by Landri, Bishop of Paris, for the support of the large numbers of poor people who in that year sought in his palace an asylum from the miseries caused by a famine then prevailing. Moreover, Landri made provision for their spiritual and physical care by creating the order of Augustinian nuns who, throughout the existence of the Hôtel Dieu, have been in charge of its inmates. In 829 a converted monastery was removed and on its site a new building was erected, this being the real Hôtel Dieu. It consisted of four wards intended to accommodate nine hundred, but this number was greatly exceeded. The basement, fronting directly on the river Seine, was used for a maternity ward, and though the river at times rose above the level of the windows the patients were never moved out. From 830 to the early fourteenth century the hospital increased greatly in size with increasingly unsanitary conditions, as illustrated by the fact that at one time nine thousand people were accommodated in one thousand beds. In 1789 some of the wards

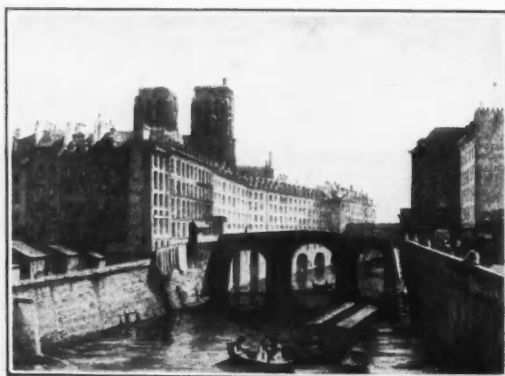


Fig. 2.—L'Hôtel Dieu, Paris, the oldest hospital in the world

were divided for contagious cases, but it was not until 1801 that any very beneficial changes were made when special hospitals for various maladies were established, the sexes separated and diseases classified according to their medical or surgical character. An excellent description of L'Hôtel Dieu has been published by Evans.¹

Hospice de la Salpêtrière.—La Salpêtrière, or L'Hospice de la Vieillesse pour Femmes, is probably the largest almshouse in the world. Constructed under the reign of Louis XIII as an arsenal (the saltpetre manufactory there gave the institution its name) but abandoned as such in 1656, the buildings were purchased by the government under Louis XIV and given over to be

used as a general hospital for the poor. It has a constant population of more than seven thousand, including four hundred attendants. Besides innumerable subdivisions, this hospice is divided into two principal sections—one for indigent women over seventy years of age, for those



Fig. 3.—La Salpêtrière, Paris. An early print of one of the most famous of French hospitals

afflicted with incurable cancerous diseases, and for the blind; the other division is for lunatics, idiots, and epileptics. The infirmary, which is a large building detached from the rest of the hospital and surrounded by fine gardens and walks, contains four hundred beds, most of which are constantly occupied. It was here that Charcot made his great clinical demonstrations.

Saint Louis.—Saint Louis is an immense building, one floor high, consisting of many quadrangles with gardens between. Originating in the stress of the great plague, when over sixty-eight thousand people died in Paris in one year, it was constructed in 1607 by Henri IV, and bears the name of King Louis, a victim of the plague. Toward the end of the seventeenth century it received all forms of contagious disease, and now specializes in skin diseases. The wards are of great length, having but few windows. The baths, founded in 1816, open into each other, there being no corridors, and are used by both out-patients

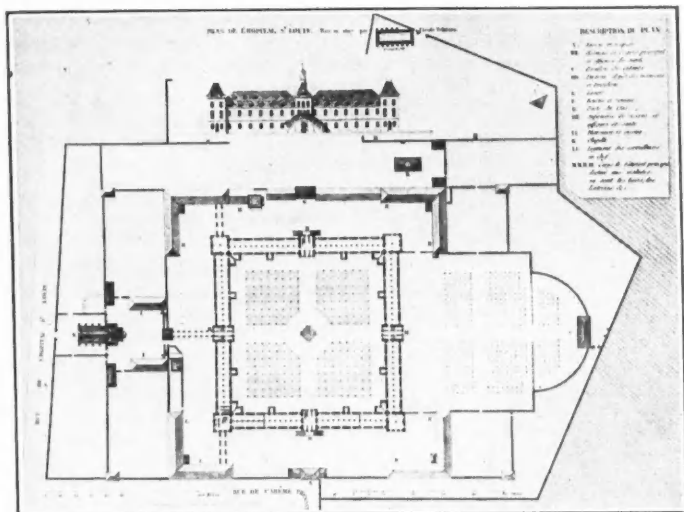


Fig. 4.—Hôpital Saint Louis. Bessat's ground plan and front elevation (1806) of the great Parisian dermatological clinic and hospital

and in-patients, twelve hundred to fifteen hundred being given daily.

Hôpital de la Charité.—In 1602, Marie de Médicis introduced from Italy four members of the order of Saint Jean de Dieu (called also Frères de la Charité) to whom she confided the management of a small hospital in the Rue de Petite Seyne. The present buildings were erected in 1607, part of them being occupied by the frères of Saint Jean, the rest devoted to the accommodation of the sick. In 1793 the name of this hospital was changed from L'Hôpital de la Charité to L'Unité, and did not recover its former name until the consulate. Previous to the Revolution, none but male patients were admitted. There being only two hundred beds, it required much influence to gain access. After 1790 an appropriation of twelve thousand francs was made by the National Convention for the support of one hundred additional beds for female patients. It now contains six hundred and fifty beds. The hospital is composed of a confused mass of irregular buildings between which are several courts and gardens where the convalescents are allowed to exercise. At one time the staff of physicians included Velpeau, Andral, Bouillaud (disciple of Broussais), Cruveilhier, Rayer, and Fouquier.

Hospice des Femmes Incurables.—The Cardinal de la Rochefoucault founded this establishment in 1634, and planned it for indigent and incurable old women and girls. Sisters of Charity attend the inmates with most devoted care. The wards are large, and in the form of crosses, ar-

ranged on either side of the chapel, with which they communicate. Those on the ground floor are partitioned off into little compartments for the old inmates; the newly arrived ones are placed in the common and open wards on the second floor.

Hôpital de la Maternité.—This hospital occupies the buildings that formerly constituted the ancient Abbey of Port Royal, founded in 1625. It served as a prison from 1790 to 1795, when it became a hospital. It was first called La Bourbe, then La Maternité when the Council General purchased the buildings and changed them into a hospital for the care of pregnant women. Before that time such cases had been confined in the Hôtel Dieu, where most lamentable conditions

prevailed in the crowded wards. The École d'Accouchement is a school attached to L'Hôpital de la Maternité for the instruction of midwives, where a limited number of students come yearly for the two-year theoretical and practical course provided.

L'Hôpital de la Pitié.—This hospital was constructed by the order of Louis XIII, but in 1612 the buildings were appropriated by the magistrates for a prison for the poor. In 1657, when Salpêtrière was built, the houses of La Pitié received homeless and sick children. During the Revolution the hospital was called L'Hôpital des Enfants du Faubourg St. Victor, and then the Hôpital de la Patrie, and finally La Pitié when it became an annex of the Hôtel Dieu.

Hôpital des Enfants Malades.—Founded in 1735 by Languet de Guercy, Curate of Saint Sul-

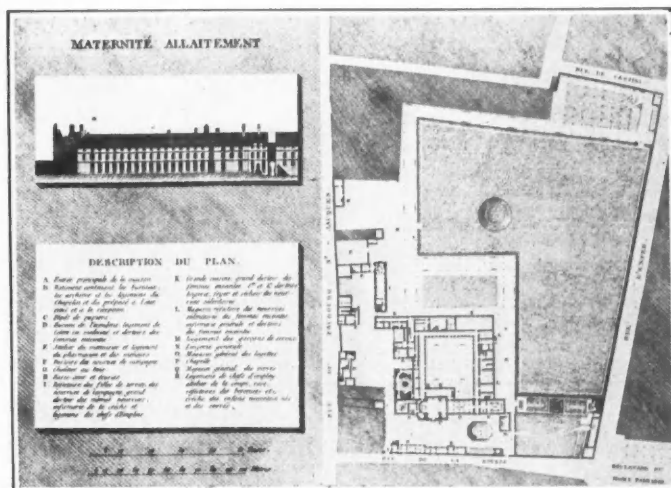


Fig. 5.—Hôpital de la Maternité. Bessat's ground plan and front elevation, drawn in 1811

pice, and with the patronage of Marie Leczinska, wife of Louis XV, this hospital was purchased in 1802 by the "Conseil des Hôpitaux" and converted into a hospital for sick children. Because of the devoted care given the little patients here, this institution was ever popular with parents and so always crowded. It had a notorious death rate because so many seriously ill patients were received, and from the lowest classes of society.

Saint Antoine.—Saint Antoine Hospital is situated in a Parisian suburb of that name. It is surrounded by large grounds and gardens. It was opened January 17, 1795 by a decree of the Convention, upon the site of an ancient convent founded in 1198 by Foulques de Neuilly and reconstructed in 1770. It contains nine hundred beds.

During the spring of 1929 the William Bell collection was displayed in part at the University of California Medical School. During the spring and summer of 1930 it will be exhibited in part at the Lane Medical Library, Stanford University Medical School, San Francisco, and later in the library of the San Diego County Medical Society.

REFERENCE

1. Evans, J. A. The Oldest Hospital in the World, Wisconsin M. J., 25: 38, January 1926.

CLINICAL NOTES AND CASE REPORTS

COMPRESSION FRACTURE OF THE FIFTH LUMBAR VERTEBRA*

REPORT OF CASE

By S. NICHOLAS JACOBS, M. D.
AND
LAWRENCE M. TRAUNER, M. D.
San Francisco

COMPRESSION fracture of the body of the fifth lumbar vertebra, uncomplicated by dislocation or compression fractures of other vertebrae, is rarely found. Review of the literature and experience shows that whereas fractures of the transverse and spinous processes and compression fractures of the bodies of other vertebrae are fairly common in injuries to the spine, the fifth lumbar vertebra singly is rarely affected. Osgood¹ reports that 40 per cent of all fractures of the spine are compression fractures of the bodies, usually only one body being involved. Of these, 70 to 80 per cent occur in the twelfth dorsal or first lumbar. In Wallace's series² of eighty-one cases, a single vertebra was involved in sixty cases. The only individual vertebrae not involved were the first and second cervical, sixth cervical, and first dorsal. Wallace reports the fifth lumbar vertebra crushed in ten cases (12 per cent), but these evidently occurred simultaneously with fractures of other vertebrae, as they are reported in a series of 125 fractures occurring in the eighty-

one cases. Hoy³ reports his own series of twenty-two lumbar fractures in which there is one case of crushing fracture of the fifth lumbar and one case in which the third, fourth, as well as the fifth lumbar vertebrae are involved. No other series of cases is reported in recent literature in which mention is made of fracture of the fifth lumbar.

The case reported below is a compression fracture of the body of the fifth lumbar vertebra which was treated by a bone fusion operation, resulting in complete restoration of the body of the vertebra.

REPORT OF CASE

W. C. L., male, age forty-nine years, on August 6, 1928, fell fourteen feet from a ladder, striking his back. He was rendered unconscious for about ten minutes. Upon regaining consciousness his first sensations were severe pains in the lower part of the back and down both legs. He was not dizzy or nauseated; there were no involuntary bladder or bowel movements; there was no motor paralysis. After lying in bed for about one week, he began to move about on crutches, and the pain was aggravated by any movement of the body. He was seen by us on September 15.

Physical examination showed extreme tenderness along the lumbar spine and limitation of motion of the spine in all directions. There was no marked scoliosis or lordosis, but there was some flattening of the lumbar curve.

Laboratory findings were all normal; Wassermann test was negative.

X-ray examination on admission showed a compression fracture of the fifth lumbar vertebra, fractures of the first, second, third, and fourth lumbar left transverse processes and fracture of the third lumbar spinous process. The compressed body was somewhat moth-eaten in appearance with its outline obliterated; Dr. F. Rice, roentgenologist to the Sutter Hospital, suggested the possibility of the presence of malignancy with a pathological fracture. The pictures were also submitted to Doctors H. Ruggles and W. E. Chamberlin for opinion. Doctor Ruggles reported: "... compression fracture of the body of the fifth lumbar vertebra. There is no forward displacement of the fourth upon the fifth, nor of the fifth upon the sacrum." Doctor Chamberlin reported: "... body of the fifth lumbar vertebra is very indistinct in spite of neighboring structures being very well demonstrated. A most important finding is the presence of an increase in the anteroposterior dimension of the body of the fifth lumbar. I am unable to conclude that there is a tumor or other disease in this vertebra. I interpret the findings as those of a crushing fracture of the body of the fifth lumbar."

In view of these reports, surgical intervention was deemed advisable. A bone fusion operation (modified Hibb's-Albee) was carried out. In order to further rule out any possibility of the presence of pathology previous to the accident, curettings were taken from the crushed vertebra to be examined and injected into a guinea pig. Microscopic examination showed no evidence of malignancy or tuberculosis, while subsequent guinea pig examination also was negative for tuberculosis. A double bone graft from the left tibia was performed. The grafts were laid from the third lumbar vertebra to the sacrum. A body cast was then applied.

Check-up x-ray examination two months later showed an increase in the bony density of the fifth lumbar vertebra with no rarefaction of bone about the graft. Physical therapy was instituted and the patient was fitted with a Taylor spring back brace. His recovery was very gradual but progressive, and he was able to move about with a cane at the end of ten weeks. X-ray examination in January 1929 showed continued increase in the amount of bone deposited within the body of the fifth lumbar vertebra.

* From the Sutter Hospital, San Francisco.

The intervertebral spaces were normal and the alignment perfect. The bone grafts showed evidence of partial fusion with the lumbar vertebrae and there was no evidence of rarefaction about them.

The patient's physical condition gradually improved so that by August 1929 he was able to resume his occupation as electrician. Physical examination in December showed almost complete return of function of the back. There was no tenderness along the lumbar spine and there was little limitation of motion. On bending forward, the finger tips came within eighteen inches of the floor. Final check-up x-ray pictures taken in April 1930 showed a recalcification of the body of the fifth lumbar vertebra. The fixation was fairly complete as a result of the bone grafts. The anatomical position was good and complete recovery had resulted.

1065 Sutter Street.

REFERENCES

1. Osgood, R. B. Compression Fractures of the Spine. *J. A. M. A.*, 89, 1563-1568, November 1927.
2. Wallace, J. O. Crush Fractures of the Spine. *J. Bone and Joint Surg.*, 5, 28-58, 1923.
3. Hoy, C. DaC. Fractures of Lumbar Spine. *Internat. Clin.* 4, 245-280, December 1924.

DIVERTICULA OF THE STOMACH*

REPORT OF CASES

By MILTON J. GEYMAN, M. D.
Santa Barbara

EVEN since the advent of the roentgen ray, comparatively few cases of gastric diverticula have been reported in the literature. This is partially due to their rarity as true diverticula occur much less frequently in the stomach than in other portions of the gastro-intestinal tract.

Diverticulous pouches in the stomach are of two types—congenital and acquired. The congenital type has two favorite sites of occurrence, in the posterior wall of the cardia and in the pyloric end. The cardiac type is much more commonly seen and most cases reported are of this type. Their appearance is strikingly similar as to site, and the size varies from that of a pea to

that of an egg. Pathological examination of these diverticula which have been removed at operation or postmortem examination show, as a rule, no evidence of inflammatory change. All normal layers of the stomach are found present but the muscular layers may be extremely thin. In fact the reason that the cardiac end type is most common is that the inherent weakness of the stomach is at this site. This is explained by two anatomical observations: the entrance of larger blood vessels, and the thinness of the oblique and circular fibers at this point. Kalbfleisch, in an excellent recent article on this subject, compares this site to the similarly weak point in the lower pharynx where the so-called Zenker's diverticulum is seen.

The other congenital diverticula occur in the pyloric end of the stomach. In the bottom of these pouches pancreatic tissue is commonly found and this is the explanation given for their occurrence.

The acquired type of diverticulum often consists of only one or two layers of stomach wall. In general, this type has two etiologies: (1) trauma; (2) the result of inflammatory changes in the stomach or adjoining structures. Traumatic diverticula are usually of the pulsion type and may be caused by hair balls, foreign bodies and pyloric obstruction, with resultant formation at a weak site.

The traction type is caused by adhesions which develop after long-standing inflammation in the gall bladder, pancreas, colon, or lymph glands.

As to the clinical significance of diverticula of the stomach, it is doubtful if they are of much import. Symptoms are as a rule vague and of mild character. Vague discomfort in the epigastrium, substernal fullness, stinging sensations after eating certain foods, and sour eructations comprise the most commonly mentioned complaints. Complications of clinical significance are rare. Mayo reports the presence of carcinoma at the bottom of a diverticulum. Bell and Golden, in a recent report of four cases, refer to cases re-

*Read before the Radiology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

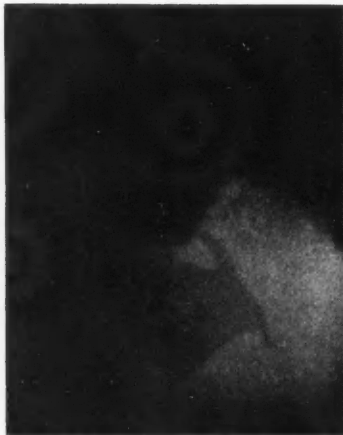


Fig. 1.—Shows the diverticulum as seen immediately after a barium meal.



Fig. 2.—Shows the diverticulum as visualized immediately after the barium meal in the right oblique position.

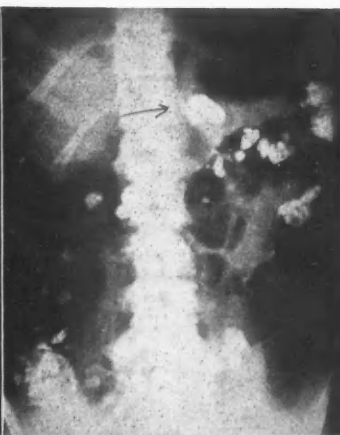


Fig. 3.—Shows the barium-filled pouch at forty-eight hours after the meal.

ported by European writers in which myomata were found in the walls of the diverticula. These patients suffered from severe hemorrhages as the tumor progressed. Bell and Golden quite reasonably believe that these should not be described as diverticula, because the apparent pouching in the gastric contour was caused by central degeneration in the individual tumor with invagination of mucosa into the hollowed sphere. The roentgen appearance of gastric diverticula is, of course, unmistakable.

REPORT OF CASES

The following two cases are reported as typical examples of cardiac end diverticula:

CASE 1.—Male patient of sixty-six years of age. For the past twenty years he has had a vague, dull ache in the upper abdomen. With the onset of this complaint he noted a burning in the epigastrium which was relieved by food. He complained of an almost constant sour stomach, and for years was on a serial small meal regimen. In recent years the distress has been more constant.

CASE 2.—Female patient, thirty-four years of age. Her chief complaint was a stinging sensation in the left side of the epigastrium at the costal border. This always occurred immediately after eating sugar, condiments, sticky, dry or rough foods. No relief was obtained with soda. Drinking water relieved the sting promptly.

Santa Barbara Cottage Hospital.

DYSTOCIA DUE TO FETAL ASCITES

REPORT OF CASE

By JOHN N. EWER, M. D.
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RARE among complications of labor are dystocias caused by fluid accumulations enlarging the fetal abdomen. According to Dorland¹ such accumulations fall into six classes, namely: (1) serum in the fetal peritoneal cavity ("true fetal ascites"); (2) fluid distention of the fetal urinary tract ("retention of fetal urine"); (3) fluid in the tissues of the fetal body ("general anasarca of the fetus," "general edema of the fetus," "fetal dropsy"); (4) congenital polycystic kidneys; (5) cystic degeneration of the fetal liver; (6) fluid distention of the fetal genital tract (vagina, uterus, and tubes).

In his article Dorland listed all such cases in the world literature up to 1919. Of the first class he was able to find only eighty cases, including his own. A search of the literature as listed in the Catalogue of the Surgeon-General's Library and The Quarterly Cumulative Index Medicus since that time reveals apparently only four additional cases of fetal ascites, those of Alam,² Rizzuto,³ and Palieri⁴ (two cases). The case reported below makes a total of eighty-five cases in all.

REPORT OF CASE

V. N., white, age twenty-eight, gravida V, entered Highland Hospital June 27, 1929, at term. Her previous pregnancies and labors were normal. The patient was not in labor, but was admitted because of edema of the legs and feet, overdistention of the abdomen, and because no fetal movements had been felt for two weeks. At physical examination no general abnormalities were found. The abdomen was very

large and hard, the fundus extended 43 centimeters above the symphysis, fetal parts were not felt, and fetal heart tones were not heard. There was no dilatation of the cervix. The Wassermann reaction and urinalysis were negative. *The pelvic measurements were: I. S., 25 centimeters; I. C., 28 centimeters; Tr., 32 centimeters; E. C., 22 centimeters. The patient had a large rectocele and a small cystocele.

The membranes were artificially ruptured at 7:30 p. m. with the purpose of inducing labor. About four to five liters of straw-colored amniotic fluid escaped. Labor pains began at 11 p. m. The position of the fetus, as determined by rectal examination, was L. O. A. Labor progressed normally, and the head was delivered spontaneously by L. O. A. mechanism at 1:30 p. m. June 28, 1929. All efforts of the intern to extract the body failed, and the writer was called. The shoulders, as determined by vaginal examination, were free in the pelvis, but the fetal abdomen was found greatly distended above the brim, and tense as though full of fluid. With great difficulty the fetal abdomen of the dead fetus was punctured twice with a long pair of dressing forceps, allowing considerable fluid to escape, but not enough could be evacuated to collapse the abdomen sufficiently to allow it to pass the inlet. In order to better reach and perforate the abdomen, the fetus was decapitated and podalic version done under ether anesthesia. Enough small perforations were then made to drain sufficient fluid to allow the child to be delivered by breech extraction. There was no perineal tear. The placenta and membranes were delivered intact. The puerperium was normal, with a maximum temperature of 99 degrees on the sixth day postpartum, and the patient was discharged July 7, 1929.

Autopsy.—Anatomical diagnosis: "Hydroperitoneum, hydropleura, hydropericardium." The fetus was well developed and formed, and was not edematous; it showed slight maceration. Gross and microscopic examination of the various organs showed no abnormalities. Unfortunately the placenta and cord were not dissected and thoroughly examined, but they appeared normal to the usual inspection at the time of delivery.

Dorland found in his review of the literature that in about one-half of the cases fetal peritonitis was the cause of the ascites. Other causes were absence of the ductus venosus, abdominal tumors or distended bladder exerting pressure on large vessels or upon the portal vein, fetal cardiac failure, and lesions of the liver and spleen. Syphilis was mentioned as a rare cause. None of these conditions were present in the case here reported, and the cause of the ascites remains unknown.

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REFERENCES

1. Dorland. *Am. J. Obst.*, 79, 474, April 1919.
2. Alam. *Indian M. Gaz.*, 57, 260, July 1922.
3. Rizzuto. *Riv. d'Ostet. e Ginec. Prat.*, 4, 23, 1922.
4. Palieri. *Rassegna d'Ostet. e Ginec.*, 34, 321, 1925.

UNIVERSITY OF CALIFORNIA HOSPITAL— MEDICAL DIVISION*

REPORTS AND DISCUSSIONS ON PATIENTS HAVING TUBERCULOSIS INVOLVING THE EYES

CASE I.—T. B. Admission No. 76359; married; male; half American-Indian; age twenty-seven; entered University of California Hospital medical teaching service on August 1, 1930. Referred by Dr. J. W. Carlson of Oakland.

Chief Complaints.—Photophobia, inability to read, and aching pains in eyes of fifteen months' duration; residual paralysis of left face since four years ago;

*Cases presented at the Wednesday morning staff conferences.

boils since April 1930, four months ago; abdominal pain in March and April, 1929.

Present Illness.—Four years ago, for the first time, patient noted sudden appearance of numbness of left side of face and tongue while washing in cold water, inability to move the left side of the face, stiffness of the left face, inability to move the ears or wrinkle the forehead, inability to close the left eye completely, and difficulty in getting food from the mouth back into the pharynx. During the preceding month he had been riding sixteen miles to work daily in an open automobile in cold weather. All these symptoms have gradually improved since; but are still present to a minor extent. There were no known abscessed teeth, no discharging ears, and no mastoid tenderness, or paranasal symptoms at that time.

Fifteen months ago the patient first noted reddening, blurring of vision, photophobia, and diminished visual acuity in both eyes, but much more marked in the right. These symptoms became progressively worse from then until the present time, with the exception of a brief period four months ago when there was some improvement following the extraction of three teeth, two of which had apical abscesses, from the right upper jaw. At the present time he is able only to distinguish light and darkness with the right eye, and to read large newspaper headlines with the left. Photophobia and orbital pain are marked.

Seventeen months ago the patient first had severe, colicky pains all over the abdomen, anorexia, and generalized weakness, and lost eighteen pounds in weight during the ensuing few weeks. He had been working as a sand polisher on recently sprayed automobiles, which had an undercoat containing 15 per cent lead, for one year, when these symptoms appeared. There was no diarrhea or constipation, and no localized muscle weaknesses. He stopped work for a time, and these symptoms disappeared, only to reappear when he went back to work. After this happened on two or three occasions, he stopped work at this plant permanently four months ago, and has had no recurrence since. Has had some tingling in the fingers of the right hand during the past week. Basophilic stippling of red cells, and lead in a twenty-four-hour urine were discovered in the clinic just prior to the patient's entrance into the hospital.

For the past four months the patient has had a pustular eruption over the back, and several boils in different places; at present he has a boil on the nose.

Six weeks ago the patient noted a weakness of the right face, numbness of the right side of the tongue, and inability to close completely the right eye. These symptoms entirely cleared up after a short time.

Family History.—Unimportant.

Marital History.—One child living and well. Wife well.

Systems and Past History.—Negative except for occasional vertigo, pain in the tip of the left ear for the past year, lacrimation since onset of present illness, a few fillings in the teeth, adenopathy in epitrochlear region noted by patient for past six months, and frequent colds during the past three years, with slight dyspnea on effort. Malaria five years ago, treated with quinin; no recurrence.

Physical Examination.—General: Coöperative American-Indian of stated age, worried, in no acute distress, almost completely blind.

Skull and scalp: Negative.

Face: Inability to wrinkle forehead. Folds on left side of face are ironed out. Aperture of left eye is questionably narrower than the right. The lip spread is greater on the right. Sensation is normal.

Eyes: Right pupil is irregular, contracted, fixed. There is a beginning pannus formation. There is vitreous opacity and ciliary injection. Tension 35 (Schiotz). Tuberculoma on iris.

Left pupil dilated, reacting sluggishly to light. Vitreous opacity. Ciliary injection.

Fundi: Unable to examine.

Ears: Negative.

Nose: Furuncle on tip of nose. Septum deviated to right. Mucous membrane inflamed.

Mouth: Negative. No lead line.

Tongue: Negative.

Throat: Posterior pharynx reddened, inflamed. Tonsils small.

Neck: Many small, discrete, nontender nodes in both triangles of each side of neck.

Thyroid: Palpable. Unimportant.

Chest: Supraclavicular wasting on both sides; and infraclavicular wasting on left. Lag on right. Guarding of muscles of right top posteriorly.

Lungs: Vocal fremitus normal. Percussion note resonant throughout. Breath sounds and voice sounds harsh at both tops posteriorly, more so on right side; on one occasion some râles mesial to right scapula, persisting after cough. Another member of the staff found râles mesial to left scapula only; while two other members found nothing abnormal in the chest. The findings were certainly very few, and doubtful.

Heart: Normal. Blood pressure, 130/88.

Abdomen: Normal. Liver edge felt at costal margin.

Lymph nodes: Many small to moderately sized nodes palpable in cervical axillary, epitrochlear and inguinal regions—not tender. No adherence to overlying skin.

Skin and mucous membrane: Pale, poor color and tone. Racial pigment.

Reflexes: All slightly hyperactive. No pathological ones.

External genitalia and rectal: Normal.

Laboratory Data.—Urine: Twenty-four-hour sample in clinic on June 17, 1930, positive for lead, very faint trace of albumin, two red cells per high dry field, occasional pus cell, and few fine and coarsely granular casts.

Wassermann: Negative.

Blood: Hemoglobin, 90 per cent (Sahli, 14.0 grams per 100 cubic centimeters of blood); red cells, 4,450,000; white cells, 7500; polymorphonuclears, 70 per cent; eosinophils, 2 per cent; basophils, 1 per cent; lymphocytes, 16 per cent; mononuclears, 11 per cent.

Stool: Negative.

Spinal fluid: Normal.

Glucose tolerance test: Normal curve.

X-rays of teeth: Negative.

Tuberculin: One-tenth cubic centimeter of 1:1000 dilution of Koch's O. T., intracutaneously, the same amount subcutaneously, and 1.0 cubic centimeter of 1:1000 subcutaneously gave no reactions, either local, focal, or general. Prompt reaction was obtained on another patient with the same tuberculin.

X-ray of sinuses: Negative.

X-ray of chest: "There are diffuse, almost bilaterally symmetrical infiltration shadows extending along the linear markings of both hili. Neither the apices nor the bases are involved. Probably pneumoconiosis; but pulmonary tuberculosis cannot be ruled out" (Doctor Stone).

Biopsy of left epitrochlear lymph node, microscopic: "Picture shows almost entire replacement of gland by granulation tissue of the tuberculous type. There are aggregations of endothelial cells, giant cells, and lymphocytes. There are many fibrous tissue whorls fairly acellular, arranged in a network. Diagnosis: tuberculosis" (Doctor Bartlett).

DISCUSSION

Doctor Kerr: How much vision does he actually have?

Dr. H. Anderson (Intern): He can distinguish only light from darkness with the right eye; and read large newspaper headlines with the left. The destruction of vision is just a matter of degree as far as the two eyes are concerned.

Doctor Kerr: Do the ophthalmologists consider this a tuberculous lesion?

Doctor McCool: Yes. Optical iridectomy was considered for the right eye to improve vision, also because iridectomy in certain cases has a beneficial effect on chronic iritis. Besides local treatment the

patient should have small doses of tuberculin, increasing so gradually that there will be no reaction in the eyes.

Dr. H. Anderson: Yes, iridectomy was suggested; but I do not believe that all agreed that this would be the best course to take.

Doctor Kerr: Have there been any other suggestions for treatment?

Dr. H. Anderson: Nothing but dionin and scopolamin.

Doctor Kerr: Has the local lesion been altered by tuberculin?

Dr. H. Anderson: No.

Doctor Steven (Assistant Resident): The medical department has felt that this patient should be treated with tuberculin; and the ophthalmologists have agreed that this would be advisable, with the possibility of resorting to iridectomy later if necessary. There is always a possibility that one may stir up a tuberculous infection with operation. With tuberculosis anywhere else in the body, it is apt to be increased with operation.

Doctor Kerr: What dosage did you use?

Doctor Steven: We began with 0.1 milligram in 1:1000 solution; since we got no reaction, we increased the dose to 1.0 milligram in the same dilution.

Doctor Stone (x-ray department—demonstrates plates): This man had his teeth and sinuses examined. His chest shows a rather unusual picture. We have here, spreading out from both hili, a rather mottled density which hardly touches the apices, so that it is almost symmetrical in its spreading out on the two sides. There is no evidence of cavitation or fibrosis. The picture is that which we usually see with pneumoconiosis. I showed the plates to Dr. Ruggles, and he felt the same way about them. But we can't find anything in the man's history which would fit in with pneumoconiosis.

Doctor Kerr: He said he worked in this auto paint shop. Would dust from paint containing, say, 15 per cent lead, cause a condition like this?

Doctor Stone: I do not think so, Doctor Kerr. There has certainly been nothing reported like that in the literature. Even the ordinary coal dust will not cast a definite shadow.

Doctor Kerr: Wouldn't you think that a dense substance like lead would show up in somewhat this way?

Doctor Stone: If it were definitely deposited in the lungs, perhaps; but I do not think it is. This picture is not inconsistent with tuberculosis. You do see tuberculosis occasionally with this distribution. In fact, if it isn't pneumoconiosis, it must be tuberculosis.

Dr. E. Anderson (Resident): Wouldn't it have to be an active tuberculosis to give such an extensive lesion?

Doctor Stone: Not necessarily. It might be chronic. But if it is tuberculosis I should think it would have to be evident in the sputum. The sputum was negative, wasn't it?

Dr. H. Anderson: The sputum was negative; and the physical examination of the chest was inconclusive.

Doctor Stone: These are like exaggerations of the usual bronchial markings. If this is due to lead, it is the first case I have seen anywhere reported of it.

Dr. E. Anderson: I still think that there is considerable doubt as to the etiology of this case. If the tuberculin which was given was potent tuberculin, one would expect positive reactions in such large doses.

Doctor Schumacher: I am afraid that I can't throw much light on the picture here. It seems to me that the whole situation is very confusing—first the history of nerve changes; second, the symptoms in the abdomen; third, the eye condition. In the laboratory work there are a number of things that do not fit in very well with the ophthalmologists' diagnosis of tuberculosis of the eye. It would be hard to conceive of such a potent dose of tuberculin not stirring up a tuberculous lesion. These nerve changes have not

been explained to my satisfaction; and as far as the abdominal condition goes, there doesn't seem to be anything in his history to indicate that his trouble wasn't due to ordinary indigestion. I didn't know that qualitative tests for lead were being made in the clinic. I can't see what conclusions you are going to draw except that the man has extensive involvement of the eye. I would be inclined to be influenced by the eye men's diagnosis as far as the eye was concerned. I am wondering if this type of tuberculosis is the human type or a different type—bovine, perhaps—that it didn't respond to the tuberculin. He might respond to the bovine type of tuberculin.

Doctor Kerr: It is a little puzzling, I think, just what the cause of this young man's trouble is. It is evident that he has a serious lesion in his eyes, and is likely to lose the sight of both eyes if nothing is done. If possible, I think we should tie all the findings together here. From a clinical standpoint the condition of his eyes is tuberculous. The condition of his chest and his abdominal symptoms might be associated with lymphatic node involvement of tuberculosis. The lack of reaction to the tuberculin is difficult to understand. We might increase the dosage; with eight milligrams he might get a reaction. If we have to go up to ten or twelve, however, the test would be of doubtful value, because almost anyone would react to such a dose. The next step here is to find out about the tuberculin—whether it is potent or not. The neurological symptoms might be on a tuberculous basis. A lymph node might have been responsible for this lesion originally. Unless we can prove something else, I would strongly favor a diagnosis of tuberculosis. But we must be very cautious with the use of tuberculin with such a condition of the eye.

Doctor Connor (Pathology Department): I would like to say that not all things which look like tuberculosis histologically are tuberculosis. Longcope reported several years ago lymph node lesions, which Doctor MacCallum used in his class sets to demonstrate tuberculous lesions, that could not be proved to be tuberculous. On injection into guinea pigs no tuberculosis developed. A few years ago we thought that giant cells meant tuberculosis; and now we think the tubercle bacilli means tuberculosis. Here, however, there were many tubercles containing epithelioid cells. It is a typical picture of tuberculosis; and it would be foolish to diagnose it to the contrary.

Doctor Kerr: Has any of this biopsy material been injected into guinea pigs?

Doctor Connor: No.

Doctor Kerr: Do you ever inject this into fowls to rule out avian tuberculosis?

Doctor Connor: No. We have only done that for Hodgkin's disease, but without any results. But the avian tuberculosis should be found with the tubercle bacillus stain; it is the biggest and the longest of the bacilli.

Doctor Harvey (Neurology Department): He has the signs now of peripheral paralysis. I should like to know the possible etiology of the thing four years ago. He doesn't remember very clearly whether he had a sore throat or fever or not. The paralysis came on very suddenly; he woke up in the morning with it. That is the usual history we get in peripheral facial paralysis. Usually they complain of pain beneath the ear in the region of the stylomastoid, and sometimes a mass and pressure, though nothing can be palpated. Sometimes there is an enlarged gland, possibly the gland that drains the tonsils in the region just below. There might be some congestion around there that could explain the paralysis on a mechanical basis. Why this should persist, I do not know. Those things usually clear up rather promptly. The treatment is to immobilize the face for a week or so and use electricity or massage. They seem to clear up, as a rule, under treatment.

Doctor Kerr: How about tuberculosis? Does it cause paralysis?

Doctor Harvey: I do not know. I could not answer that question. I have not run into anything of that sort. But I doubt it very much.

Doctor Kerr: I have used tuberculin in retinitis with excellent results, combined with other kinds of therapy, starting with small doses, and kept up for many weeks.

Dr. E. Anderson: If he gives no response to tuberculin tests, would you expect results from tuberculin treatment?

Doctor Kerr: I couldn't answer that. One uses a dose of tuberculin which is just below the amount which gives a reaction. Doctor Schumacher, what is your opinion?

Doctor Schumacher: The optimum dose of tuberculin is the one just below the dose that gives the reaction.

Doctor McCool: The case under discussion illustrates very well the difficulties encountered in making a correct diagnosis of ocular tuberculosis. The ophthalmologist frequently is obliged to rely chiefly upon the tuberculin test, the clinical appearance of the eye, and the elimination of other etiologic factors, before he is able to satisfy himself that the lesion is tuberculous. The internist usually is of very little help, in a positive sense. I do not mean to minimize either his skill as a diagnostician, nor his willingness to do all in his power to aid in making the diagnosis. His position is somewhat analogous to that of the rhinologist when dealing with those diseases of the eye and optic nerve dependent upon sinus infection.

A positive finding is of distinct value, while a negative one by no means eliminates the sinuses as the responsible source of infection. I am sure that the internist will be the first to admit the difficulty sometimes encountered in locating a tuberculous lesion which may be responsible for the ocular disorder.

If it were entirely harmless, the method of using subcutaneous injections of old tuberculin in doses of 1 to 3 and 5 milligrams would be satisfactory. Its value is dependent upon the production of a local focal and general reaction. Not infrequently the focal reaction produced is of such severity as to jeopardize the integrity of the eye. This is especially true where the suspected lesion is near the macula, or in the optic nerve. A much safer method is to use smaller doses of old tuberculin intradermally: .001, .01, .1, and 1 milligram. A positive reaction with .001 and .01 milligram is indicative of an active tuberculous infection somewhere in the body. If the clinical appearance of the eye is of such a character as to suggest tuberculosis, and if the teeth, tonsils, sinuses, gall bladder, gastro-intestinal and genito-urinary tracts can be eliminated as sources of focal infection, we may assume for practical purposes, so far as treatment is concerned, that the lesion is tuberculous. Syphilis, of course, must be eliminated. Hamman and Wolmar said: "If it is found that the patient reacts markedly to interdermal injections of extremely minute doses of tuberculin, the presumption that there is some activity in the tuberculous infection of the patient is strengthened; and with some reservation, we may feel a greater certainty that the ocular trouble is tuberculous in origin."

In the treatment, it is the rule to start with very minute doses of bacillus emulsion or bacillus filtrate, increasing the dosage gradually, just short of a focal reaction. The duration of the treatment is usually from six months to a year.

Progress of cases since discussion above (Doctor Steven): Lymphadenopathy practically disappeared, and we naturally wondered if this were due to the tuberculin. The patient received one more injection subcutaneously of 1.0 cubic centimeters of 1:1000 solution in addition to those above. He left the hospital August 26, 1930.

Since discharge from the hospital, he has been followed in the eye and chest clinics. He has had tuberculin as follows: 0.1 cubic centimeters of 1:100 on September 5; 0.15 on September 12; 0.2 on Sep-

tember 18; and 0.25 on September 26. He has gained one pound in weight. Atropin and dionin have been used locally for his eyes.

The future treatment planned is to continue with increasing doses of tuberculin; and the eye department feels that an iridectomy on the right eye will be necessary very soon.

Spider Bites Are Given Much Notice, Says Entomologist.—While there have been many stories of persons suffering from the bites of the spider known as the Black Widow, there probably have been no more occurrences of this kind than in past years. This is the opinion of Dr. T. I. Storer, associate professor of zoölogy in the University of California College of Agriculture.

"This spider is common all through the warmer sections of California and Lower California," says Professor Storer, "and while it ordinarily does not inhabit the cooler coast regions and the mountain districts, it has appeared there, carried, undoubtedly, through the transportation of such materials as wood."

While the bite of the Black Widow is usually followed by very painful results, it is seldom fatal, says Doctor Storer. He points out that in one hospital where thirty-eight cases of the bite from this spider have been handled in the last six years, there was but one fatality, that of an old man of very weakened resistance.

"However," he says, "the bite is not to be taken lightly, and a person who has been bitten should consult a physician at once. In southern California, where for years there have been many cases annually, it has been found the best treatment is a convalescent serum, made from the blood of a person who is recovering from the effects of a bite."

The *Latrodectes mactans*, as the Black Widow is technically known, is a rather large black spider, with unusually long legs. From its shiny appearance it also is known as the shoe button spider. Under its abdomen are two triangles of red or orange, touching at their points so as to suggest the third name by which the insect sometimes is known, the hour-glass spider.

Throughout the state this year there have been published many articles telling of persons who have been bitten by the Black Widow. This has led to the assumption on the part of many that the insect has increased in numbers or that it is unusually active this summer. Doctor Storer believes that it is only the unusual amount of publicity that has been given the spider that it has taken the center of interest.—*University Clip Sheet*.

Death of R. H. Babcock.—The death of Dr. Robert Hall Babcock, who has long been recognized as an outstanding cardiologist, marks the passing of one of the most unique and distinguished characters in the medical profession for several generations. Doctor Babcock died recently at Princeton, Wisconsin, at the age of seventy years. Up until the time of his death he was recognized as one of the foremost authorities on heart ailments.

Doctor Babcock became blind when he was twelve years of age, but notwithstanding this fact he acquired a well-rounded education at the Institute for the Blind in Philadelphia; Olive College, Michigan, and finally secured his degree in medicine in the University of Michigan. After this he continued to study in Continental Europe.

About twenty years ago Doctor Babcock wrote a textbook on "Diseases of the Heart" which was used by many students of medicine, both as a textbook and for reference work.

Once, upon being questioned as to whether or not he considered his blindness a handicap in his specialty, Doctor Babcock replied that he could see as much of the heart as any other physician.—*International Medical Digest*, August 1930.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

HYPERTHYROIDISM

THE PATHOLOGY OF THYROID CONDITIONS

WILLARD E. KAY, SAN FRANCISCO.—The pathology of hyperthyroid conditions is chiefly found in the clinical entities; exophthalmic goiter and adenomatous goiter with hyperthyroidism.

The morbid anatomy of exophthalmic goiter, so far as the thyroid gland is concerned, may be summarized as a parenchymatous or follicular hyperplasia. The cause is thought to be some powerful stimulus acting through the nervous system to which the gland responds by hyperplasia and hyperfunction. In the process the cuboidal epithelium lining the normal alveoli changes to high cuboidal and columnar cells and a striking proliferation takes place. This proliferation causes infoldings and plications which in turn form papillary folds that encroach upon the cavities, frequently filling up the alveolus. There is a marked increase in the vascularity; the blood vessels become dilated, tortuous, and later hypertrophied. The colloid in the alveoli is diminished and changes in character from a thick amber-colored, gelatinous material to a thin, stringy, limpid fluid. An increase and fibrosis of the stroma takes place and a lymphoid hyperplasia. The extirpated gland is fleshy amber red, lobulated, and firm. The cut surface, after the blood has run out, is finely lobulated, opaque, and of a grayish color. Colloid is generally absent, though in some, colloid is abundant and the gland less opaque. The size of the gland varies considerably, but it is not greatly enlarged. It frequently cannot be palpated in serious disease. At operation, independent of size, it is found to be very vascular and is friable. After iodine administration the gland becomes firmer and strikingly less vascular. Involution takes place within the gland and there is a tendency to return to the colloid stage. The colloid not only increases in amount, but becomes more gelatinous. Some believe the favorable action of iodine is dependent upon the rapid formation of the colloid which mechanically blocks delivery of thyroxine to the general circulation or that the colloid, filling the alveoli, mechanically compresses the lining cells, thus reducing their secretory powers.

In contra-distinction to the above, in adenomatous goiter with hyperthyroidism there is no characteristic pathological picture. It is the symptoms and clinical findings that determine its toxicity. The onset is insidious and signs of hyperfunction are not recognizable, usually,

until middle or later life. Why the cells begin to overfunction and produce hyperthyroidism is unknown. In some instances iodine seems to be the inciting cause. The adenomas are nodules of thyroid tissue surrounded by a fibrous capsule separating them from the remainder of the gland. They may be multiple and vary in size from that of a marble, or smaller, to that of a man's fist, and may be so numerous as to practically replace all the thyroid tissue. Not infrequently they are so incorporated in the gland as to give a feeling of denser areas rather than nodules. The adenomatous areas may be colloid in type or show involution. The surrounding gland may vary in its pathological state and occasionally hyperplasia, such as occurs in exophthalmic goiter, is found. After iodine administration no typical changes occur in this condition.

* * *

HEART MANIFESTATIONS

A. B. COOKE, LOS ANGELES.—Clinically there are two very different classes of goiter—the toxic and the nontoxic—though it should be noted that any given case may at some time in its life history belong to both classes. Cardiac disturbance occurs as a manifestation of the toxic variety. Usually it is the first symptom noticed by the patient, and in a large proportion of cases is the reason assigned for seeking medical advice.

Tachycardia, palpitation, or "pounding" as it is often called, throbbing in the head, discomfort—sometimes amounting to actual pain in the region of the heart—shortness of breath, etc., one or all may enter into the patient's complaint. It may be in certain cases that there is a goiter of long standing; in others that there has not been and is not now a visible goiter. In either event it may be extremely difficult to convince the sufferer of the real nature and cause of the heart symptoms. In the former case the objection will be urged that the goiter has been present many years and the palpitation only began a month ago. In the second case any suggestion as to a possible goitrous origin of the heart trouble is apt to be both denied and resented.

Unfortunately, hyperthyroidism as an etiological factor in heart cases is often overlooked. Permanent damage not infrequently results. This is particularly to be feared in borderline cases, where thyroid pathology is so often obscure and unsuspected. If the goiter is toxic at the time, a reliable basal metabolism reading will usually indicate the true relationship. If on the other hand, even in the presence of a definite goiter, the test proves negative, it is quite possible for the causative sequence to remain undiscovered.

Ed. Note.—The October number of California and Western Medicine printed a discussion on "Strabismus—When to Operate." In the correspondence column of the Miscellany Department of this number is printed a letter from Dr. Roderic O'Connor, who wrote the opening discussion, to which the attention of readers is called.

For reasons intimated in the foregoing, the writer long ago came to regard the toxic adenoma as a more dangerous form of thyroid dyscrasia than true exophthalmic goiter. The insidious development of the cardiac damage makes it so. The onset of exophthalmic goiter is generally sudden and violent and the patient at once realizes that aid must be sought without delay, while the milder disturbances of toxic adenoma will be tolerated for months or years, sometimes in ignorance, but more often because the patient is not wholly incapacitated. This is one among a number of weighty considerations which render it justifiable—even imperative—for us to advise the removal of the adenomatous goiter when it is first seen, whether or not it is active at the time.

* * *

SYMPTOMS AND DIAGNOSIS

JOHN HUNT SHEPARD, SAN JOSE.—The so-called "cardinal symptoms of exophthalmic goiter," *i. e.*, exophthalmos, tachycardia, tremor, and enlargement of the thyroid gland, have been so frequently reiterated in textbooks, lectures, and periodicals, that only too frequently we hesitate to make a diagnosis of this malady unless all four of these signs and symptoms are present. We have learned to think of exophthalmic goiter in these terms instead of in terms of cellular and biochemical pathology.

The etiology of exophthalmic goiter is not known. The cellular pathology is quite well understood. The biochemical pathology is only partially understood. Its signs and symptoms are many and their chronological appearance and intensity are subject to wide variations. The exophthalmos rarely develops within three months of the onset of the mental irritability and excitement and is absent throughout the course of the disease in about one-fourth of the cases. The enlargement of the thyroid gland may be so slight that, in patients with heavy neck muscles or a thick layer of adipose tissue, it may be impossible to demonstrate any hypertrophy. The fine tremor, most easily demonstrated in the outstretched hand, is rarely an initial symptom and may never develop. Tachycardia, probably always present to a more or less degree, may be so influenced by personal and extrinsic causes as to be unreliable.

Clinical and experimental studies show that in exophthalmic goiter we are not only confronted with a hyperthyroidism, but also with a dysthyroidism. The known thyroid hormone, thyroxin, has three iodine atoms in each molecule. In exophthalmic goiter it is believed that there is liberated an incompletely iodized thyroxin molecule containing only two and perhaps only one atom of iodine. It was upon this conception that Plummer, in 1922, began the use of Lugol's solution in the preoperative treatment of these patients.

The one constant finding in all patients suffering from this disease, and in its absence a diagnosis of hyperthyroidism should not be made, is an increase in their basal metabolic rate, which is an index of their oxygen consumption at basic

rest. To permit of this increased tissue burn, it is essential that there should be an increase in the per minute output of the heart. This increased per minute output of the heart can be accomplished in one of two ways; either by increasing the number of heart beats per minute or by increasing the amount of blood leaving the heart at each beat.

The four most commonly present physical findings in hyperthyroidism are clearly explained on the basis of the increased metabolism. They are: increase in the pulse rate, increase in the pulse pressure, increase in the moisture of the skin, and loss of weight. The degree of variation from normal of these four physical findings bears a direct ratio to the severity of the hyperthyroidism as measured by the basal metabolic rate.

There is a characteristic difference in the blood pressure readings in hyperthyroidism of exophthalmic goiter and hyperthyroidism of toxic adenoma. In the former the diastolic blood pressure is usually normal or below normal, while the systolic blood pressure is normal or above normal; in the latter both the diastolic and systolic blood pressures are above normal. In both, the pulse pressure is above normal and with a given basal metabolic rate, the pulse rate varies inversely as the pulse pressure. Upon the two depends the per minute output of the heart.

The increase in oxygen consumption results in an increase in heat production which the body largely disperses through the skin, and this accounts for the increase in skin moisture.

The increase in tissue burn results in weight loss. This, however, may be compensated for by an increase in food consumption in which event there may be no loss of weight; even occasionally a slight weight increase is seen.

If in approaching the diagnosis of hyperthyroidism we learn to think in terms of increased metabolism and forget the so-called "four cardinal symptoms," then check our opinion with a reliable basal metabolic rate determination, extreme weight loss, marked muscular weakness, cardiac irregularities, advanced exophthalmos with its accompanying eye signs, pronounced tremor, vomiting and diarrhea, all signs of severe and relatively long-standing hyperthyroidism, then hyperthyroidism will be seen as infrequently as a walled-off appendiceal abscess.

A Bountiful Bequest.—By the will of James D. Phelan, whose death occurred at Saratoga on August 7, there was left an endowment of \$1,000,000 to be known as the James D. Phelan Foundation for the purpose of providing nursing care for the needy sick of San Francisco in their homes. This generous gift, as also other provisions in the will of Mr. Phelan, places this beloved citizen of San Francisco among the great and wise philanthropists of our country.

Foundations for the needy and sick are not common in our western states, in fact this foundation is the first on the Pacific Coast that has been established for the specific purpose of caring for the sick in their homes. It comes at a significant time when there is much attention being given to the matter of medical and nursing care in the average family and when our efforts are being directed toward providing good nursing service to people at a reasonable price.—*Pacific Coast Journal of Nursing*, October 1930.

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Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

COUNTY SOCIETY BY-LAWS—IN RELATION TO DUES AND MEMBERSHIP

The present constitution and by-laws of the California Medical Association were unanimously adopted by the House of Delegates on May 8, 1929, at the fifty-eighth annual session at San Diego.

Letters which have been received at the central office of the Association indicate that as yet a number of the county units have not amended their own rules of organization to conform with the present state society by-laws on payment of dues and on lapse of membership through non-payment of dues.

Since the by-laws of the component county units of the California Medical Association must be in harmony with those of the State Association, and because of misunderstandings which arise on the part of members, when such county society by-laws are different in their provisions on the matter of dues, the attention of the officers and members of each county society is again directed to the importance of making the necessary amendments where such are needed.

Chapter X, Section 1 of the present by-laws of the California Medical Association provide:

The annual assessment or dues shall be payable on or before January 1 of the year for which they are levied.

* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the *Medicine Today* column, which follows.

Concerning termination of membership because of nonpayment of dues, Chapter II, Section 2, Item (b) of the State Association by-laws provide:

(b) If the annual assessment of dues payable to this Association by any member of this Association is not paid on or before April 1 of any year, such member shall automatically lose his membership in this Association as of April 1 of such year. The Council of this Association, in its discretion, upon payment of such unpaid dues, and any other assessments or dues accruing thereafter, may at any time reinstate such member.

No matter what the by-laws of a component county society may state to the contrary, these excerpts from the by-laws of the California Medical Association mean that the annual assessment or state society dues are due and payable from every member of the California Medical Association on or before January 1 of each year, and that on April 1 of any year, if the dues of any member remain unpaid, then such member automatically loses his membership in the California Medical Association, and the name of such a member is then deleted from the mailing list of the official journal and other publications, until such time as membership is reestablished as otherwise provided in the state society by-laws.

County medical societies which have not amended their by-laws to conform to the state society provisions here quoted are urged to do so, in order that their members be not confused as to the time periods permitted for payment of dues.

LETTER OF OCTOBER 6 AND ITS ENCLOSURE

Council Minutes Dealing Therewith.—During the month of October a letter of date of October 6, with an enclosure letter of date of May 14, was sent by some San Francisco colleagues to all members of the California Medical Association.

Mention is made thereto in this column in order to call the attention of members who are interested, to the minutes of the last two meetings of the Council which bear on the same subject. The Council meeting of June 4 was a special meeting called to consider the enclosure letter of date of May 14. At the regular quarterly meeting of the Council held on September 27 some later developments were considered. These minutes will be found in the California Medical Association column of this number of CALIFORNIA AND WESTERN MEDICINE, on pages 836 and 838.

CAN A CORPORATION PRACTICE MEDICINE—COURT RULES NOT

An Interesting Decision by Judge Samuel R. Blake of the Los Angeles Superior Court.—In the Medico-Legal column of the Miscellany department of this number of CALIFORNIA AND WESTERN MEDICINE is printed a digest of the decision rendered by Judge Samuel R. Blake of the Superior Court of Los Angeles. The decision was on a proceeding file by Granville Mac-

Gowan of Los Angeles, against the Medical Service Corporation, a corporation with its major offices of business in Los Angeles.

The question, whether a corporation can be organized to practice a learned profession such as law or medicine, has recently been much discussed in those two professions. The opinion handed down by Judge Blake is important and worthy of perusal.

COMMENT ON THIS AND THAT

Rural Obstetrics As Practiced by Peck of Utah.—One of the special articles in this number of CALIFORNIA AND WESTERN MEDICINE is a contribution from Dr. J. H. Peck of Tooele, Utah, a small town of some five thousand population, located in a typically western environment. Attention is called thereto because our Utah colleague in his analysis of some one thousand obstetric cases—in work done under far different conditions than those met with in urban centers—has shown how it is possible to use the essential elements of our present-day scientific knowledge so as to obtain results in practice equal to or better than those of many hospitals.

Peck's description of his technique—for his adaptation of methods to dirt-floor cabins required a technique in order to be efficient and successful—is most interesting, not only to physicians who practice obstetrics, but also to those who do not. His statistics demonstrate that if all things are observed that are vitally important in judgments and procedures, then the end results should measure up most favorably with those obtained in places and surroundings where the accessories and refinements of care and treatment are stressed or superstressed. The paper and its discussion by colleagues dealing with analogous economic conditions and patients in a large city, present an interesting portrayal and will probably be much enjoyed by many readers of CALIFORNIA AND WESTERN MEDICINE.

* * *

Illness Has Disagreeable Economic Phases.—The cost of illness is everywhere much commented upon. The criticisms perhaps are not based so much on illness itself, or even on the faulty conditions and habits which so often favor the development of illness, as on the fact that with illness financial income is often not only cut off, but expenses are most materially increased. These additional expenses for illness—a something from which one gets no pleasure—are not pleasant expenses to many citizens. For our modern-day lay psychology and habits of living make many persons afflicted with illness or injury look upon disease, with its physical and economic discomforts, as something altogether uncalled for. This feeling of dissatisfaction seeks a person or an outlet other than the individual himself on which to cast the blame for the disagreeable economic distress. One of the results of such dissatisfaction is that the physician who is called

in, and whose services are most welcome and seemingly appreciated at the time when distress is first relieved, or health is conserved or life even saved, seems a good mark upon whom can be vented the dissatisfaction which especially comes to many patients when the bill for professional services is rendered. This prevalent and understandable psychology explains perhaps, in part, why so many contributions and investigations on the "high cost of medical care" have appeared in the lay and medical press.

Now illness is a something that practically comes to all persons at some time during life, and if we all measured up to full efficiency we would make provision in our personal financial budgets to enable us to care for such illness. But the time is not yet ready for such 100 per cent efficiency. There are too many more desirable things or habits of modern-day living which first must be satisfied.

Let us digress for a bit and briefly consider two habits of modern-day American living which have to do with voluntary mass expenditures by the people of the United States which in total amount run into vast sums approximating those of illness.

* * *

"Beauty Aids and Culture"—One of the *Ten Major Industries of the United States*.—The expense of maintaining personal beauty was discussed by the chief of the chemical division of the United States Department of Commerce in an oral statement on October 1. It should be little less than an astounding fact to be told that this comparatively new industry of supplying so-called beauty aids now ranks in the group of the "first ten" of America's industries. This "enormous expansion in the use of toilet waters, perfumes, cosmetics, lotions, facial soaps, etc., as well as a rapid development in the field of beauty services," is all comparatively recent. Translated into money equivalents the annual volume of this "beauty business" now approximates the sum of one billion dollars! One-half of this total expenditure was stated to come from about four million of the forty million American women. The wholesale value of the beauty aids approximated \$250,000,000 and the retail costs added \$125,000,000 to the above, the remainder of the enormous sum being covered by the personal services of "beauty doctors" or cosmeticians, licensed and unlicensed.

* * *

The High Cost of Cigarette Smoking.—Let us turn now to another luxury of the human race, and one, the sins of which would formerly have been placed solely at the feet of the male population, but now no more. On October 14, the chief of the tobacco division of the United States Department of Commerce announced that, in spite of the current business depression in our country, the total of cigarette sales for this year would exceed those of last year. And last year 119,000,000,000 cigarettes were produced, or one thousand for capita! The statement was also

added that this continued consumption of cigarettes at a time when business depression exists would indicate "that the tobacco industry was nearly shock proof." The total money cost of the 119,000,000,000 cigarettes used this year was not given by the tobacco bureau chief, but that it is very large and in harmony with the one billion dollar annual beauty cost, is very evident.

* * *

The above are only two of the modern-day former luxuries which, in the minds of many of our lay fellows, today are little less than necessities.

Is it any wonder, then, that when illness comes, and particularly when the time arrives for paying the costs incident to illness, that a howl and a yowl should many times go up, and the members of the medical profession be criticized as being nowadays too commercialistic.

The actual facts are:—that after luxuries, seeming necessities, and real necessities are paid for (in full or on time payments), it is no wonder that very little money is left with many citizens with which they would be in position to defray the legitimate expenses of illnesses which come to them.

* * *

Caffein "Pepping" in Cereal Beverages Prohibited in Pennsylvania.—The Bureau of Foods and Chemistry of the Pennsylvania Department of Agriculture in October promulgated an order that a cereal or similar type of nonalcoholic beverage which had been doctored or pepped up with caffein would hereafter be considered as having been adulterated, misbranded, and unlawful. The bureau based its opinion upon the fact that "caffeine had no place as an ingredient in cereal beverages because the recognized standard for beverages of this class contains no caffeine, even a trace, as a normal constituent." The bureau also pointed out that in its analyses and investigations no case had come to its attention in which caffeine had been added to tea or coffee to "pep" them up.

This is an interesting decision and most physicians will probably agree that the order is much needed. One need only to observe the large number of girl clerks and other persons at soda fountains to appreciate to what extent such artificial stimulation in cold drinks with ingredients unknown as to quality and quantity has come into general use. Better, by far, if a stimulating beverage is desired that a warm cup of good coffee or tea be taken.

* * *

Ginger Paralysis.—The outbreak of the "Jamaica ginger paralysis" which was so much commented upon in the daily press during this last year, and which because of the coincident occurrence of infantile paralysis in many localities, as well as its relationship to the Eighteenth Amendment, led to special interest in the subject, at last has been solved. Some 4837 cases of Jamaica

ginger paralysis were reported officially, and the justice division of the prohibition department estimates that, in all, about 20,000 cases occurred.

The United States Public Health Service on October 8 announced that the paralysis which was observed in these patients, was due to the ingestion by the persons afflicted of a substance which "has been identified as tri-orthocresyl phosphate," a chemical which is often used in the manufacture of varnishes, shellacs, and similar preparations.

This substance has certain properties very much akin to those of real ginger. The United States Public Health Service made many analyses and then tested out the different constituents in monkeys and rabbits, the rabbits dying when the tri-orthocresyl phosphate was given orally, but the monkeys resisting the substance unless it was given subcutaneously. Evidently here was an example of man being partly in the rabbit as well as in the monkey class. (No pun intended.)

It is not known whether the above referred to animal experimentation has been noted by the antivivisectionists, who would no doubt object bitterly to this research on animals even though seemingly necessary, in order to arrive at proper knowledge of a chemical cause that was playing such havoc with so many citizens of some of the Midwest and Southern States who had innocently indulged in Jamaica ginger celebrations. Here again science has come to the aid of the Eighteenth Amendment and brought forth knowledge showing that some varnishes and shellacs contain ingredients which possess possible medicinal properties, even though of a kind where the less familiarity the better.

* * *

Self-Medication for Drug Addictions—Through Utilization of Rabies Inoculations.—Out of the holy land of Egypt comes a story to which publicity was given on October 13 by a division of the United States Department of State. This report reveals a complex of present-day scientific advancement with ancient "barber-surgeon" efficiency, mixed with the ever present and always existing human credulity and self-experimentation, that is quite out of the ordinary. The story is given out with the sanction of the Central Narcotics Bureau at Cairo. The keen observation of the self-experimenting Egyptians suggests the possibility that Pasteur antirabic inoculations perhaps may be of value in the treatment of drug addictions. If so, acknowledgment should be made in due time to the obscure Egyptian citizen whose shrewdness enabled him to act so efficiently in the double rôle of "barber-surgeon" and personal friend.

The essentials of this "medical discovery" were as follows:

At the Cairo Anti-Rabic Institute it is expected that the patient will bring with him, or have sent up later on, the dead dog which did the biting. Now, from a certain small village in lower Egypt came for a time an unusual number of patients who had the fang marks of dog bites. But no

dead dogs were brought or sent in. This led, finally, to close interrogation and to the solution of the mystery.

It seems that in that village were many heroin addicts. One such was actually bitten by a mad dog, was sent to the Anti-Rabic Institute and returned cured also of his drug-addiction habit. His unfortunate heroin addict friends concluded that the Pasteur inoculations had done this.

Now the government gave the inoculations only to persons actually showing dog bites. How then to get the dog bites, without being actually dog bitten? The village barber was appealed to and found the solution. He obtained the jaws of a dead dog, fitted them with a metal spring, and then from time to time had this apparatus "bite" one of the addicts, who then went to the Anti-Rabic Institute for treatments.

Whether the participants of the rabies hoax were actually cured of their drug addictions is not stated in the communication of the United States Department of State. But that this particular "barber-surgeon" showed a native shrewdness out of the ordinary and that the drug addicts likewise showed themselves to be keen clinical observers, even though they committed the fallacy of drawing a general conclusion on the effectiveness of a remedy from a single "cure," can hardly be doubted.

Doctor James's Powder—The Remedy That Killed Goldsmith.—A curious and interesting leaflet of four quarto pages has recently come into the possession of Messrs. P. J. and A. E. Dobell, the London book-sellers. This is what may be the only surviving copy of the prospectus of a famous eighteenth century patent medicine, Dr. James's Powder for Fevers, a specific which has its place in literary as well as in medical history.

Boswell's "Life of Johnson" is full of references to Dr. Robert James (1705-1776), his works and medicine. Johnson at one time had a high regard for the abilities of James, who had been his schoolfellow at Lichfield, and from whom, he tells us, he acquired his own knowledge of medicine. Moreover, he helped James with his "Medical Dictionary" and wrote the dedication for it. He coupled James, too, with Garrick, when he spoke of one friend who had lengthened life and one who had gladdened it.

After this it is somewhat strange to find that in the last year of his life Johnson seems to have given a different opinion, for he wrote to Doctor Brocklesby:

"I never thought well of Doctor James's compounded medicines; his ingredients appeared to me sometimes inefficacious and trifling, and sometimes heterogeneous and destructive of each other. . . . We will, if you please, let this medicine alone."

It would have been well if Oliver Goldsmith, another literary admirer of James, had left his medicine, and particularly his powder, alone. When Goldsmith was seized with his last illness he called in to attend him William Hawes (1736-1808), an admirable medical man practicing in the Strand, and still remembered as one of the founders of the Royal Humane Society. Hawes found Goldsmith very unwell and convinced that the proper treatment of his illness was by James's Powder. Hawes disagreed strongly, and argued with Goldsmith that his complaint was "more a nervous affection than a febrile disease," and that, therefore, James's Powder was unsuitable. But Goldsmith insisted on having James's Powder, which was duly sent him on March 25, 1774, and on April 4 poor Oliver Goldsmith died.

One of the interesting literary connections of this medicine is that the agent for its sale was Newberry, the publisher for whom Goldsmith did so much work. Possibly it was this connection which disposed him so violently and disastrously in its favor. The prospectus gives long instructions for the correct use of the powder "in acute continual Fevers, the Small-Pox, Measles, Acute Rheumatisms, Colds, Headache, and all Inflammatory Diseases," beginning with the advice that "If the Patient is of a strong Constitution, Young and full of Blood, it is prudent to take away ten or twelve ounces"—a violence which few would care to suffer to-day for the cure of a mere "head-ache."

An occasional "I" drops into the prose of this prospectus so that presumably Doctor James must himself be given the credit for its composition. Yet one cannot help toying with the idea that perhaps he may have had the assistance of his friend Doctor Johnson with here and there a point of style. Or might possibly Doctor Goldsmith himself at the bidding perhaps of Mr. Newberry have lent his pen to the composition? If so, it was one of Fate's best strokes of irony.

Both Horace Walpole and Gray were firm believers in Doctor James's nostrum. The latter, writing to Mason in the early days of their acquaintance, when a malignant fever was prevalent, advises him:

"Pray remember James's powder; I have great faith in its efficacy; I should take it myself."

To William Cole, the antiquary, who had put off a visit to Strawberry Hill because of a cold, Walpole wrote:

"Your illness is the worst excuse you could make me; and the worse, as you may be well in a night, if you will, by taking six grains of James's powder. He cannot cure death; but he can most complaints that are not mortal or chronic."

When George III soon after his accession was attacked by a "strange and universally epidemic cold" Walpole sent the news to Mann at Florence:

"He (the King) had a violent cough, and oppression on his breast, which he concealed, just as I had; but my life was of no consequence, and having no physicians in ordinary, I was cured in four nights by James's powders, without bleeding. The King was blooded seven times, and had three blisters. 'Thank God he is safe!'"

In his correspondence with Miss Berry when she was abroad and her health was causing him great anxiety, Walpole canonized the inventor of his favorite remedy:

"I do believe St. James's blessed powder has cured your fever. . . . St. James's day (the day of her cure) has been my only holiday in ten months—do not give him a post-vigil that may destroy his festival. . . . I recommend you to St. James of compost antimony, to whom St. Luke was an ignorant quack."

The powder, however, failed to save the life of Lord Waldegrave, who took it on Walpole's advice when he was sickening for smallpox, and died a few days later.—*Weekly Times*, January 2, 1930.

(Doctor James's Powder was composed of oxid of antimony and calcium phosphate. It was, impartially, used for both George Washington and King George III. A good account of Doctor James can be found in the "Annals of Medical History," New Series, 1, 180, March 1929.—Ed.)

Diagnosing Is Practicing.—That a physician who confined his activities to just diagnosing, without prescribing or administering remedies is actually practicing medicine in the state and must be licensed, was the opinion of the attorney general this spring. In the specific case referred it was held that physicians conducting health centers must be licensed even though they receive their compensation from other sources than the patient and do not prescribe or administer remedies for such conditions as may be found.—*Wisconsin Medical Journal*, July 1930.

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Urography.—Research studies in the field of urography have shown increased activity in recent years. We have witnessed the improvement of the radio-opaque medium used in urography performed from below and the introduction of a fairly satisfactory method of urographic visualization by the intravenous route.

The widely used 12½ per cent sodium iodid, while possessing many advantages as a urographic medium, is an electrolyte and, therefore, in many cases irritating to the urinary mucous membrane. This has led urography to be a distressing procedure in a number of instances. While the primary object of urography is to visualize the urinary tract so as to demonstrate the normal and abnormal conditions, the comfort of the patient during a cystoscopic study should be considered. Cognizant of these facts and desiring to make urography a more benign procedure, the field of halogenated oils, especially the iodized oils, was investigated. Since the introduction of lipiodol, an iodized poppy-seed oil, by Sicard and Forestier in 1922, these compounds have come to be more extensively used for radiographic diagnostic purposes in the various systems of the body. Of special importance is their nonirritability and chemical inertness as compounds. Though casting excellent radiographic shadows, iodized oils gained little favor in the urinary tract because of their great viscosity and nonmiscibility with the urine. The successful use of campiodol emulsion since October 1928 has solved these disadvantages and yielded a non-irritating urographic medium. Campiodol is an iodized rape-seed oil synthesized by Frazier, Glaser and Raiziss, and contains 44 per cent elemental iodine. By using the emulsion, a mixture of campiodol, acacia and distilled water, a urographic medium (of 11 per cent iodine content) suitable to both urologist and patient, has resulted. The writer has successfully used campiodol emulsion in over two hundred and fifty cases with gratifying results in all parts of the urinary tract.

Intravenous urography dates back to 1923, when Osborne, Sutherland, Scholl, and Rowntree were the first to attempt the visualization of the urinary tract by means of intravenous injection of a ten per cent solution of sodium iodid. In 1924 Rosenstein and von Lichtenberg repeated the work, using the iodid in conjunction with the perirenal pneumoradiographic method. Volkmann in 1924 and Lenarduzzi and Pecco in 1927 attempted similar procedures, as did also Hyrntschak in 1928. Roseno in 1928-1929 was

the first to achieve any fair results, using a solution which contained the sodium iodid bound to the urea molecule. This, however, was associated with some reactions.

In 1929 the use of uroselectan in intravenous urography was first recorded by Swick and von Lichtenberg. This work began with the use of selectan-neutral, a preparation made by Binz and R  th and utilized against coccal infections for a long time on the medical service of the St  dtisches Krankenhaus, Hamburg-Altona. The study of its excretion and its iodine content (54 per cent) led to the thought that it might be applicable for radiographic purposes in the urinary tract. The first experiments carried out on rabbits gave no roentgen visibility of the biliary tract, but with the ligation of the ureters a fairly good outline of the urinary tract was obtained. Studies on excretion revealed 75 to 80 per cent of the injected iodine in the urine. This substance, however, caused headache, nausea, vomiting, and other symptoms. In humans the urinary bladder was always well outlined and occasionally the upper urinary tract.

Encouraged by these results, Binz and R  th replaced the methyl radical with sodium glycine and reduced the iodine content (thereby increasing the solubility) and with that produced a new compound uroselectan (sodium 2 oxy-5-iodopyridine-N-acetic acid). This product is non-toxic, very soluble in water, neutral in reaction, and under normal conditions is almost entirely excreted through the urinary tract in eight hours. It has produced roentgenograms of the urinary tract to a fair degree of visualization within fifteen minutes of injection. The authors have indicated that this type of urography may be used whenever ureteral catheterization is dangerous or mechanically impossible; in cases of lower genitourinary tract infection; in the presence of bleeding; in cases of implanted ureters; and in children. Intravenous urography is naturally restricted in its scope. Only with continued clinical use and experience will the efficiency of uroselectan (or similar substances) and intravenous urography be determined. In the hands of skilled clinicians and used upon selected cases, it may serve as a further enhancement to the present field of urography. It is doubtful if the intravenous method of urography can displace that performed from below, but for the present it appears that it may be a useful supplementary asset in selected cases.

ADOLPH A. KUTZMANN, Los Angeles.

Reduction of Fractures and Dislocations Under Local Anesthesia.—The use of local anesthesia for the reduction of fractures and dislocations is a practical procedure deserving more widespread usage. Twenty cubic centimeters of two per cent novocain solution injected into the hematoma surrounding the ends of the fragments will allow of manipulation of the fragments without pain.

In the Vienna Industrial Clinic of Lorenz Böhler, local anesthesia is used exclusively for the reduction of simple fractures. The technique is not difficult. It should not be necessary to remind those using this method that strict asepsis is essential. A 20 cubic centimeter Luer, 22 to 24 gauge needle 1.5 inches in length, and ampoules of 2 per cent novocain are the materials required. The skin is prepared as for a spinal puncture, or intravenous therapy. Needle is passed through the skin and other soft parts, avoiding region known to contain large vessels and nerves, into the hematoma. If the end of the needle is in the space surrounding the ends of the fragments, old fluid blood may be aspirated into the syringe. This aspiration of old blood should always be carried out, otherwise an intermuscular or an interfascial injection will be made and no anesthesia of fragments result. The anesthesia lasts as long as two hours, and if radiographs show the fragments need further adjustment it is not necessary to reinject.

For dislocations the novocain is injected around the dislocated epiphysis and into the joint capsule. The use of local anesthesia has not proved as satisfactory for reduction of dislocations as for the reduction of fractures, in the author's hands.

EDMUND BUTLER, San Francisco.

The Treatment of Laryngeal Tuberculosis. The upper respiratory passages no doubt play a very important rôle in the course of pulmonary tuberculosis.

Under normal conditions they are the first line of defense for the lungs; under pathological conditions, however, they lose their protective value and may become a causative factor in the development of pulmonary tuberculosis.

For this reason it has been advocated that rhinolaryngology be included in the training of all tuberculosis specialists, and therefore, in many sanatoria, throat departments are now being established. The main purpose of a throat department is to discover the incipient forms of tuberculosis of the larynx at the time when they are most responsive to treatment. Their development follows a subjectively asymptomatic course, and they may thus escape the doctor's attention without routine examination. Another purpose is to properly detect nontuberculous pathological conditions, which require special systemic treatment, that a maximum of benefit may be obtained during the patient's stay at the sanatorium.

In consideration of the treatment of tuberculosis of the larynx, we must mention briefly its etiology:

1. Infection by contact, occurring most frequently in the first year of the disease. In this type, which permits a comparatively favorable prognosis, the soft parts of the larynx are affected.

2. Infection through the blood or lymph stream during the allergic stage or during the stage of relative anergy. Specific involvement of the soft parts of the larynx only is at that stage very rare; the cartilaginous parts are mostly involved, and the prognosis is decidedly unfavorable. Involvement of the cartilage undoubtedly signifies a break-down of the defenses of the body.

Pathologically, anatomically, and clinically, the latter cases differ from the former, for here the process starts, not with the changes in the voice but more so with dysphagia and pain, caused by the involvement of the cartilaginous framework of the larynx. These menacing symptoms impair the nutrition of the tuberculous patient, aggravate the processes in the lungs, and ultimately are a frequent contributory cause of death.

Treatment involves a consideration and utilization of the therapeutic measures adapted for combating the foci in the lungs. Numerous reports show that relatively far advanced cases can obtain complete cure after the establishing of artificial pneumothorax or after phrenicotomy, while the larynx receives conservative treatment only.

The main requisite for a successful treatment is absolute silence and the control, by the will power of the patient, of superfluous coughing. His cooperation in this respect is absolutely necessary.

Laryngeal rest is so essential that gastrostomy and tracheotomy have been performed to eliminate passive movement of the larynx in deglutition and respiration. In some cases the active immobilization of the affected side of the larynx is secured by severing or blocking the recurrent laryngeal nerve.

Phototherapy in the form of heliotherapy, Roentgenotherapy, quartz lamp, Cromayer's lamp, and radium are of help in building up the local resistance of the tissues.

The treatment of the most distressing symptom, dysphagia, may be briefly mentioned. This may be relieved by the application of trichloroacetic acid, but unfortunately its effect is only temporary, as it lasts only as long as the slough remains. The application of a 2 per cent solution of butyn, or 5 per cent cocain, anesthesin, orthoform, tannin-analgesin or sucking orthotroches, and the sipping of a 2 per cent solution of antipyrin have proved beneficial.

Other measures which are also helpful are Bier's passive hyperemia, produced by placing a

tourniquet on the neck for a few hours, alcohol injection or excision of the superior laryngeal nerve, and application of a warm 80 per cent solution of Chaulmoogra oil with one per cent menthol followed by careful massage.

The galvanocautery, now widely used, is of inestimable value, serving as a destructive agent for diseased tissue, as a stimulant for granulation tissue and as a means of puncturing areas exhibiting marked edema. But the greatest care in the selection of cases and in the use of this therapeutic agent is essential for the best results.

When dysphagia is due to involvement of the epiglottis, it may be amputated surgically or removed by galvanocautery. Pathology elsewhere in the larynx can also be destroyed by the above mentioned methods or by diathermy.

In extreme cases of dysphagia, where no other treatment brings relief, abatement of pain by morphin is the only choice.

Diet also plays a highly important rôle, particularly when dysphagia is present. Soft, bland, rather than liquid, foods are better tolerated. Individualization is essential, for one patient will often tolerate a food poorly taken by another. Having the patient eat in the sitting posture with the head bent forward, and swallowing air after each deglutition, will eliminate the choking spell.

Choice of climate represents a complicated problem of various physiotherapeutic factors such as temperature, barometric pressure, air currents, composition, etc. When properly combined they exert a powerful beneficial effect on tuberculosis of the larynx. The consensus of opinion seems to be that the best climate for laryngeal tuberculosis is the warm sea climate such as is found throughout most of southern California.

CHARLES RUBINSTEIN, Duarte.

Non-Specific Urethritis in the Female.—

As long ago as 1906 it was known that a non-specific infection was a common occurrence in the female urethra. Taussig¹ demonstrated by culture that practically 50 per cent of female urethras were infected. Regardless of this early recognition of the condition and the frequency of its occurrence, there is very little to be found in textbooks concerning it, and a review of the literature reveals almost nothing on the subject. Indeed, the fact that it is so commonplace might be responsible for its being so lightly regarded.

Every physician is familiar with the female patient who complains of irritation in the region of the bladder outlet, of burning on urination and of urgency and some frequency which is worse during the day or when she is nervous or tired. These symptoms suggest chronic non-specific ure-

thritis, but it is extremely important not to make this diagnosis without a thorough examination, for the same symptoms may be seen when upper urinary pathology is present, and this must be excluded before making the final diagnosis.

The proximity of the female urethra to the vagina predisposes to its infection. There is always more or less trauma to the urethra during childbirth. Irritating vaginal discharges bathe the urethral meatus, causing an inflammation and lowering the resistance of the urethral mucosa.² Bacterial invasion from the vagina is then easily accomplished and gradually extends upward to the bladder neck and trigone.

Examination of the patient with chronic non-specific urethritis reveals either a slightly inflamed external urethral meatus, or more frequently fibrosis, which causes more or less contraction of the orifice. The voided urine sometimes shows a few pus cells and a few bacteria, but it is the rule for the catheterized specimen to be normal. Cysto-urethroscopic examination shows a subacute inflammation with some fibrosis and granulations throughout the urethra, about the posterior portion of the bladder neck, and on the lower part of the trigone. As the condition becomes more chronic, fibrosis predominates and there are seen small polypi at and just below the bladder neck. However, this picture does not preclude urethritis to the exclusion of everything else, for the infection in the urethra may extend downward from renal or bladder pathology, and this must be excluded.

The chronically infected female urethra is treated by first reducing the inflammation. The irritating vaginal discharge is corrected as far as possible. Balsams and alkalinizers are given by mouth and the urethra may be irrigated with a mild antiseptic solution, followed by instillation of a solution such as silver iodid or gomenol in olive oil to allay the inflammation. It is also necessary to soften the fibrosis and to destroy the granulations and polypi. This may be done by massaging the urethra by passing a sound. In the more stubborn cases, cauterization of the granulations and polypi with silver nitrate, or their destruction with the fulgurating electrode through the cystoscope or endoscope may be necessary.

Summary.—The chronically infected female urethra is a common occurrence, but is frequently overlooked. The patient complains of symptoms of "cystitis" and has a practically normal urine. The infection is usually due to bacterial invasion from the vagina to a urethral mucosa of lowered resistance. Fibrosis, granulations and polypi are the usual cysto-urethroscopic findings. Urethral massage and dilatation with sounds and sometimes cauterization or fulguration are used to correct this condition after the cause of the inflammation has been eliminated.

ROGER W. BARNES, Los Angeles.

¹ Taussig, F. J. *Am. J. Obst. and Gynec.*, 54, 465, October 1906.

² Berlin, L. M. *Nonspecific Urethritis*. *Urol. and Cutan. Rev.*, 30, 463, August 1926.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

LYELL C. KINNEY President
JUNIUS B. HARRIS President-Elect
EMMA W. POPE Secretary

COUNCIL MINUTES

Minutes of the One Hundred and Ninety-Third Meeting of the Council of the California Medical Association

Approved at the One Hundred and Ninety-Sixth Meeting of the Council of the California Medical Association, September 27, 1930

Held in Room 723, Hotel Del Monte, Del Monte, California, Thursday, May 1, 1930, at 9 a. m.

Present.—Doctors Kinney, Pallette, Arnold, Duffield, DeLappe, Phillips, Hamlin, Harris, Rogers, Hunter, Cushman, Kress, Kelly, Catton, Pope, and General Counsel Peart.

Absent.—Doctors Moseley, Coffey, and Ewer.

1. **Call to Order.**—The meeting was called to order by the chairman, Oliver D. Hamlin.

2. **Reorganization of the Council.**—The chairman stated that the first order of business would be the election of a chairman for the ensuing year, and asked that the president take the chair.

3. **Election of Chairman of the Council.**—Oliver D. Hamlin was nominated by Robert A. Peers, seconded by Rogers, as chairman of the Council for the ensuing year.

On motion of Hunter, duly seconded and carried, the secretary pro tem, Emma W. Pope, was instructed and did cast the ballot of all members of the Council for Dr. Oliver D. Hamlin, and the president announced the election of Oliver D. Hamlin as chairman of the Council for the ensuing year. Doctor Hamlin then took the chair.

4. **Election of Vice-Chairman of the Council.**—T. Henshaw Kelly was nominated by George H. Kress, seconded by Pallette, as vice-chairman of the Council for the ensuing year.

On motion of Duffield, duly seconded and unanimously carried, the secretary pro tem, Emma W. Pope, was instructed and did cast the ballot of all members of the Council for Dr. T. Henshaw Kelly, and the chairman announced the election of Doctor Kelly as vice-chairman of the Council for the ensuing year.

5. **Election of Secretary-Treasurer.**—Emma W. Pope was nominated by Lyell C. Kinney, seconded by Peers, as secretary-treasurer of the Association for the ensuing year at her present salary.

On motion of Pallette, duly seconded and unanimously carried, the chair was instructed and did cast the ballot of all members of the Council for Doctor Pope and announced the election of Emma W. Pope as secretary-treasurer for the ensuing year at her present salary.

6. **Minutes of the Council.**—Minutes of the 190th, 191st, and 192nd meetings of the Council were read and on motion duly made and seconded, the following resolution was adopted:

*For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index references on the front cover, under Miscellaneous.

Resolved, That the minutes of the 190th, 191st, and 192nd meetings of the Council be approved.

7. **Election of Editor.**—George H. Kress was nominated by George Hunter, seconded by Henry S. Rogers, as editor of the JOURNAL for the ensuing year at his present salary.

On motion of Pallette, duly seconded and unanimously carried, the secretary was instructed and did cast the ballot of all members of the Council for Doctor Kress and the chair announced the election of George H. Kress as editor of the JOURNAL for the ensuing year at his present salary.

8. **Election of Associate Editor.**—Emma W. Pope was nominated by William Duffield, seconded by T. Henshaw Kelly, as associate editor of the JOURNAL for the ensuing year at her present salary.

On motion of Rogers, duly seconded and unanimously carried, the chair was instructed and did cast the ballot of all the members of the Council for Doctor Pope and announced the election of Emma W. Pope as associate editor of the JOURNAL for the ensuing year at her present salary.

9. **Appointment of General Counsel.**—On motion of Pallette, duly seconded and unanimously carried, the following resolution was adopted:

Resolved, That Hartley F. Peart be appointed general counsel of the California Medical Association for the ensuing year at his present retainer.

10. **Appointment of Associate General Counsel.**—On motion duly made and seconded and unanimously carried, the following resolution was adopted:

Resolved, That Hubert Morrow be appointed associate general counsel for the ensuing year at his present retainer.

11. **Election of Member of the Program Committee.** The secretary stated that the term of Robert V. Day had expired as a member of the Committee on Scientific Work.

F. M. Pottenger of Los Angeles was nominated by William Duffield as a member of the Committee on Scientific Work for a period of three years; such nomination was seconded by Robert A. Peers and unanimously carried.

On motion of Catton, duly seconded and unanimously carried, the secretary was instructed and did cast the ballot of all members of the Council for Dr. F. M. Pottenger as a member of the Committee on Scientific Work for a period of three years.

12. **Committee on Arrangements.**—On motion of Peers, seconded by Duffield and unanimously carried, the following resolution was adopted:

Resolved, That the San Francisco Bay region members of the Council appoint the members of the Arrangements Committee and advise the Council of such appointment.

The San Francisco members were instructed to secure information on accommodations for the next meeting at various hotels in San Francisco. It was stated that special consideration should be given to exhibit space.

It was felt that since the Olympic games would be held in Los Angeles during 1932 a committee should be appointed to make tentative arrangements for the meeting, which will probably be held in the south during 1932.

Action by the Council.—On motion of Harris, seconded by Kelly, and unanimously carried, the following resolution was adopted:

Resolved, That Doctors Duffield, Pallette, and Kinney be appointed a special committee to investi-

gate hotel accommodations in the south for the 1932 meeting and report at the fall meeting of the Council.

13. Lay Medical Service Corporation.—Telegram was presented from Harlan Shoemaker, secretary of the Los Angeles County Medical Association, stating that the Honorable Samuel R. Blake, judge of the Superior Court of the State of California, had rendered a decision that corporations cannot practice medicine.

The secretary was instructed to telegraph Doctor Shoemaker thanking him for the information.

14. Appointment of the Auditing Committee.—Discussion was had of the appointment of the members of the Auditing Committee. The chairman of the Council stated that the Auditing Committee would consist of Doctors Kelly (chairman), Coffey, and Catton. The appointment of the committee was approved by the Council.

15. Members of Standing Committees.—The chairman stated that the next order of business would be the appointment of members of standing committees.

George H. Kress was nominated as a member of the Standing Committee on Associated Societies and Technical Groups by Robert A. Peers, seconded by Pallette. There being no further nominations the chair announced the election of Doctor Kress as a member of the Standing Committee on Associated Societies and Technical Groups for a period of three years.

Robert A. Peers was nominated as a member of the Standing Committee on Extension Lectures by Joseph Catton, seconded by Edward Pallette and unanimously carried. There being no further nominations, the chair announced the election of Robert A. Peers as a member of the Standing Committee on Extension Lectures for a period of three years.

Henry S. Rogers was nominated as a member of the Standing Committee on Health and Public Instruction by Lyell C. Kinney, seconded by T. Henshaw Kelly and unanimously carried. There being no further nominations the chair announced the election of Henry S. Rogers as a member of the Standing Committee on Health and Public Instruction for a period of three years.

Gayle G. Moseley was nominated as a member of the Standing Committee on Hospitals, Dispensaries, and Clinics by T. Henshaw Kelly, seconded by William Duffield and unanimously carried. There being no further nominations, the chair announced the election of Doctor Moseley as a member of the Standing Committee on Hospitals, Dispensaries, and Clinics for a period of three years.

Mott H. Arnold was nominated as a member of the Standing Committee on Industrial Practice by William Duffield, seconded by Robert Peers and unanimously carried. There being no further nominations the chair announced the election of Doctor Arnold as a member of the Standing Committee on Industrial Practice for a period of three years.

Joseph King was nominated as a member of the Standing Committee on Medical Economics by Ruggles A. Cushman, seconded by Henry S. Rogers and unanimously carried. There being no further nominations the chair announced the election of Doctor King as a member of the Standing Committee on Medical Economics for a period of one year to fill the unexpired term of William T. McArthur.

Ruggles A. Cushman was nominated as a member of the Standing Committee on Medical Economics by William Duffield, seconded by T. Henshaw Kelly and unanimously carried. There being no further nominations the chair announced the election of Ruggles A. Cushman as a member of the Standing Committee on Medical Economics for a period of three years.

George G. Hunter was nominated by Edward M. Pallette as a member of the Standing Committee on Medical Education and Medical Institutions, seconded by Fred R. DeLappe and unanimously carried. There being no further nominations the chair announced the election of Dr. George Hunter as a member of the

Standing Committee on Medical Education and Medical Institutions for a term of three years.

Fred R. DeLappe was nominated as a member of the Standing Committee on Medical Defense by William Duffield, seconded by Lyell C. Kinney and unanimously carried. There being no further nominations the chair announced the election of Dr. Fred R. DeLappe as a member of the Standing Committee on Medical Defense for a term of three years.

Jesse W. Barnes was nominated as a member of the Standing Committee on Membership and Organization by T. Henshaw Kelly, seconded by Junius B. Harris and unanimously carried. There being no further nominations the chair announced the election of Dr. Jesse W. Barnes as a member of the Standing Committee on Membership and Organization for a term of three years.

Emmet Rixford was nominated as a member of the Standing Committee on History and Obituaries by Fred R. DeLappe, seconded by T. Henshaw Kelly. There being no further nominations the chair announced the election of Doctor Rixford as a member of the Standing Committee on History and Obituaries for a term of three years.

It was stated that Alfred C. Reed had resigned from the Committee on Publications on account of the stress of other activities. Morton R. Gibbons was nominated by William Duffield as a member of the Standing Committee on Publications; seconded by T. Henshaw Kelly and unanimously carried. There being no further nominations the chair announced the election of Morton R. Gibbons as a member of the Committee on Publications for a term of two years to fill the unexpired term of Alfred C. Reed.

Frederick Gundrum was nominated as a member of the Standing Committee on Publications by William Duffield; seconded by Fred R. DeLappe. There being no further nominations the chair announced the election of Frederick Gundrum as a member of the Standing Committee on Publications for a period of three years.

Joseph Catton was nominated as a member of the Standing Committee on Public Policy and Legislation by William Duffield; seconded by Peers. There being no further nominations the chair announced the election of Joseph Catton as a member of the Committee on Public Policy and Legislation for a period of three years.

16. Fall Council Meeting.—Discussion was had of the date of the fall meeting of the Council and on motion of Duffield, seconded by DeLappe and unanimously carried, it was

Resolved, That the fall meeting of the Council be held at Los Angeles on September 27, 1930.

17. Cost of Cuts in the Journal.—Discussion was had of the cost of illustrating articles published in the JOURNAL. It was pointed out that at the present time the Association paid \$10 toward illustrating any one article and that all in excess of that amount was paid by the author.

Action by the Council.—On motion of Kelly, seconded by Peers and unanimously carried, the following resolution was adopted:

Resolved, That the appropriation for cuts illustrating articles in the JOURNAL be left to the discretion of the editors.

18. Authors' Bureau.—Letter from Benjamin Katz recommending the establishment of an authors' bureau was presented.

It was the sense of the Council that the correspondence be referred to the Committee on Publications.

19. Druggists' Association.—Letter from the Pharmaceutical Association thanking the California Medical Association for its coöperation during the past year was read.

Action by the Council.—On motion of Catton, seconded by Hunter and unanimously carried, the following resolution was unanimously adopted:

Resolved, That a similar courteous telegram be transmitted to the Pharmaceutical Association thanking them for their coöperation.

20. **Correspondence From Doctor Day.**—Correspondence from Doctor Day which was held over from the 189th Council meeting was brought up for action. Doctor Hamlin explained that the amendment to the constitution should not have been submitted to the Council as Doctor Day had intended to present this to the House of Delegates and had done so on Monday evening. Doctor Pallette stated that Doctor Day did not desire further action on the resolution on financial statements.

Action by the Council.—On motion of Pallette, seconded by Rogers and unanimously carried, the following resolution was adopted:

Resolved, That inasmuch as Dr. Robert V. Day has stated that he does not desire action on the resolution regarding distribution of financial statements, it be filed.

21. **Incorporation.**—Mr. Peart called attention to the fact that Doctor Kelly and himself had made some slight changes in the proposed Articles of Incorporation. Mr. Peart then explained the changes to the Council. Discussion was had of the selection of directors for the corporation and it was decided that it would be advisable to have members of the Executive Committee act as the directors of the corporation. It was stated that the regular place of meeting should be the offices of the Association at San Francisco and that special meetings could be held wherever the Council meets. After discussion, on motion of Kelly, seconded by DeLappe and unanimously carried, the following resolution was unanimously adopted:

Resolved, That the proposed Articles of Incorporation, a draft of which was submitted to each member of the Council on January 21, 1930, as revised by the attorney and submitted to the Council at this meeting, providing for a nonprofit corporation under the laws of the State of California, without capital stock, and providing that the incorporators and members thereof shall be active members of this Association, who are councilors or constitutional officers thereof, with the name Trustees of the California Medical Association and with its principal office for the transaction of the business of the corporation located in the City and County of San Francisco, State of California, and providing for seven directors and naming as directors to serve for the first year and until their successors are elected, the seven members of the Executive Committee of this Association, viz.:

Lyell C. Kinney
J. B. Harris
O. D. Hamlin
Edward M. Pallette
George H. Kress
T. Henshaw Kelly
Emma W. Pope

and with the purposes and objects and the provisions regarding voting power and property rights and interests of the member of the corporation and the remaining provisions contained in said Articles of Incorporation this day submitted by the attorney, a true copy whereof is suffixed to these minutes, be and the same are hereby approved and adopted as the Articles of Incorporation for said corporation; and be it further

Resolved, That the Council hereby prescribes, fixes and determines the incorporators, name, purposes, objects, principal place of business, term and number of directors, and directors to serve for the first year and until their successors are elected and shall have accepted office; voting power, property rights and interests of the members and the remaining provisions contained in said Articles of Incorporation as in said copy of said Articles of Incorporation set forth; and be it further

Resolved, That each of the councilors and constitutional officers of this Association be requested to

forthwith sign his name to said articles and acknowledge such signature, and that the attorney of this Association be authorized and empowered to make proper filing thereof with the Secretary of State.

(Suffixed to the minutes of this meeting of the Council of the California Medical Association, at which the above resolution was adopted, is a copy of the Articles of Incorporation submitted as aforesaid and as filed in the office of the Secretary of State of California, May 8, 1930.)

Action by the Council.—On motion duly made, seconded and unanimously carried, the following resolution was adopted:

Resolved, That the secretary of this Association from time to time certify to the directors and officers of said corporation the names of the councilors and officers of this Association succeeding in office the present councilors and officers thereof, together with their respective terms of office.

Action by the Council.—On motion of Kelly, seconded by DeLappe and unanimously carried, the following resolution was unanimously adopted:

Resolved, That a special meeting of the Council of the California Medical Association be held at the offices of the Association, Room 2004, Four Fifty Sutter Building, 450 Sutter Street, San Francisco at 10 a. m. Saturday, May 17, 1930, to prescribe and approve by-laws for said corporation and to consider and act upon all necessary matters and things to complete the organization of said corporation.

22. **Chevalier Jackson.**—Doctor Kelly stated that Chevalier Jackson had been invited to speak at one of the general sessions of the present meeting but had been unable to come West at this time. Doctor Jackson expressed a keen desire to appear before the Association at some future time.

On motion of Kelly, seconded by Kinney and unanimously carried, the following resolution was adopted:

Resolved, That the Council invite Chevalier Jackson to address the Association at one of the general sessions at the 1931 annual meeting.

23. **Editorials.**—Doctor Kress presented two editorials. The Council approved for publication in the JOURNAL the editorial entitled "California Acquires Two Foundations for Cancer Research."

24. **Adjournment.**—There being no further business the meeting adjourned.

OLIVER D. HAMLIN, *Chairman.*
EMMA W. POPE, *Secretary.*

Copy of Articles of Incorporation of Trustees of the California Medical Association is here appended.

Articles of Incorporation of Trustees of the California Medical Association

(Adopted May 1, 1930. See Council Minutes of One Hundred and Ninety-Third Meeting)

Know All Men by These Presents:

That we, the undersigned, all of whom are residents of the State of California, and active members of the California Medical Association and councilors or other officers thereof according to the provisions of the constitution of said Association, propose to form a nonprofit coöperative corporation, having no capital stock, under the laws of the State of California, and particularly as embodied in Titles I and XXII of Part IV, Division First of the Civil Code of the State of California, and the provisions of acts amendatory thereof and supplemental thereto; and for the purpose of such incorporation we hereby unite in and adopt the following articles of incorporation, to wit:

First: That the name of this corporation is Trustees of the California Medical Association.

Second: That the purpose for which this corporation is formed is:

1. To promote the objects and aid in carrying out the purposes for which the California Medical Association was and is organized, namely, to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession.

2. To receive, hold, own, enjoy, improve, use, convey in trust, mortgage, pledge, lien, hypothecate, lease, exchange, grant, sell, convey, or otherwise dispose of, moneys and other personal property and real property delivered, assigned, conveyed or transferred to it by or for the said California Medical Association.

3. To appoint such agents and officers as its business may require, and such appointed agents may be either persons or corporations; to admit duly qualified persons to membership in the corporation and to expel any member pursuant to the provisions of its by-laws; to forfeit the membership of any member for violation of any agreement between him and the corporation or his violation of its by-laws; to purchase, lease or otherwise acquire, hold, own and enjoy, to sell, lease, mortgage and otherwise encumber and dispose of any and all and every kind or kinds of real and personal property including stock in other corporations, also to carry on any and all operations necessary or convenient in connection with the transaction of any of its business; to borrow money, to mortgage or pledge any property real or personal owned or held by this corporation; to secure any contracts made by it or any bonds, debentures, promissory notes or other obligations by it issued or incurred or guaranteed.

4. And in aid and furtherance of the foregoing purposes:

(a) To acquire by operation of law, gift, devise, bequest, lease, purchase, or otherwise; to own, hold, improve, enjoy, use; to grant, bargain, sell and convey, exchange, or otherwise dispose of, mortgage, convey in trust, pledge, lien, hypothecate, lease, hire, and deal in, any and all kinds of property, both real and personal, lands, tenements, and hereditaments, and any and every interest therein, corporeal or incorporeal, personal property, furniture, fixtures, books, libraries, shares of stock of corporations, bonds, notes, securities, and any and all kinds of choses in action.

(b) To make, enter into, execute, deliver, receive, transfer and carry out contracts of every kind and character with any person, firm, association, club, or public or private or municipal corporation; to invest and reinvest surplus or other funds of this corporation in such securities as may be authorized by law for investment of the funds of savings banks in the State of California.

(c) To purchase or otherwise acquire, construct, erect, maintain, alter, repair, reconstruct, furnish, conduct, and carry on a home and meeting place and library for said California Medical Association, and to purchase or otherwise acquire, own, hold, improve, and use all kinds of property, real, personal, or mixed, necessary or proper to be used in connection therewith, and to hire, employ and contract with persons, firms, or corporations, necessary or proper to maintain, operate, conduct and carry on the same.

(d) To purchase or otherwise acquire, own, hold, manage, conduct, print, publish, circulate and sell journals, magazines, pamphlets, books and bulletins concerning or relating to the art and science of medicine, the protection of public health and the betterment of the medical profession, and in support and aid of the purposes of the corporation; to purchase or otherwise acquire, hire, lease, use, conduct or operate, manage, mortgage, convey in trust, sell or otherwise dispose of printing presses, apparatus, machinery tools, and devices for printing, engraving, lithographing, electrotyping, binding, and all equipment and appliances necessary or suitable to carry out the foregoing purposes.

(e) To do any and every act and thing necessary or incident to the exercise, accomplishment and fulfillment of the foregoing objects and purposes, and to exercise any and all other powers and rights permitted to corporations, organized under the above mentioned provisions of the laws of California. The enumeration of particular powers herein shall not be deemed to exclude by inference such legal powers as would be implied if no such expressed enumeration had been made.

Third: That the county in the State of California where the principal office of this corporation for the transaction of the business of the corporation is to be located is the City and County of San Francisco.

Fourth: That the number of directors of this corporation is seven (7), and that the names and residences of the directors who have been selected, and appointed, for the first year and until their successors shall have been elected and shall have accepted office are as follows:

Lyell C. Kinney, La Mesa, San Diego County, Cal.
J. B. Harris, Arcade Park, Sacramento County, Cal.
O. D. Hamlin, Oakland, Alameda County, Cal.
Edward M. Pallette, Los Angeles, Los Angeles County, Cal.

George H. Kress, Santa Monica, Los Angeles County, Cal.

Emma W. Pope, Berkeley, Alameda County, Cal.
T. Henshaw, Kelly, San Francisco, Cal.

Fifth: That the voting power and property rights and interest of each member of the corporation shall be equal to that of every other member of the corporation. Each member of the corporation shall be entitled to one vote upon all propositions submitted to, and to one vote for each director to be elected by, the members. Cumulative voting is expressly prohibited. The corporation shall have power to admit new members, who are duly qualified as hereinafter provided, who shall be entitled to vote and to share in the property of the corporation with the old members but without any beneficial interest therein in accordance with the general rule in these articles provided.

Sixth: That this corporation shall have no capital stock but shall be composed of members, each of whom shall be an active member in good standing and a councilor or other officer according to the provisions of the constitution, as now existing or as it may hereafter be amended, of the California Medical Association, a voluntary association, originally formed March 12, 1856, to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession, and now having its offices and headquarters at Room 2004, Four Fifty Sutter Building, 450 Sutter Street, San Francisco, California. Every person who is an active member of the California Medical Association in good standing, while he is and remains a councilor or other such officer of said Association, shall be entitled to become and shall be, without other or any action or proceeding (and in accordance with this general rule), a member of this corporation upon the issuance to, and acceptance by, him of a certificate of membership and giving his assent in writing to the articles of incorporation and the by-laws of this corporation, and his compliance with, all the provisions thereof relating to admission to membership.

Seventh: (a) A roll of members shall be kept and certificates of membership shall be issued to each and every member. Issuance to and acceptance by a member of a certificate of membership of this corporation shall be conclusive evidence of the consent of the member to become a member of this corporation, and of his agreement to comply with and be governed by all the provisions of these articles of incorporation and the by-laws of this corporation.

(b) Neither membership in this corporation, nor any certificate evidencing the same, nor the interest of any member in this corporation, or any of the assets thereof, shall (a) be subject to execution, or become or be, an asset of the estate of any deceased member, or of any member who may become insolvent or bankrupt, (b) descend to or vest in the heirs, legatees or devisees of any member, or (c) be transferable or assignable in any form, either by the voluntary or involuntary act of any member, or by operation of law. In the event of the death, insolvency or bankruptcy of any member or of any such attempted transfer or assignment of membership or of any certificate evidencing the same, or of any interest of any member in this corporation, or any of the assets

thereof, whether by the voluntary act of the member or otherwise, such membership, certificate and all interest of any such member in this corporation, and all assets thereof, shall be immediately canceled, revoked and terminated.

Eighth: This corporation is not organized, and its business shall not be conducted or carried on for profit to itself, or for the profit of its members. All beneficial interest of each member in this corporation, and in and to all the assets thereof, shall be held by him for the use and benefit of the California Medical Association.

Ninth: In the event of the dissolution of this corporation all of its assets and property after payment and satisfaction and discharge of all claims and demands against, and liabilities of, the corporation, shall be paid over, distributed, conveyed and transferred to the nominee or nominees of said California Medical Association, acting by and through the Council, viz., the board of councilors thereof.

In witness whereof, we have hereunto set our hands and seals this first day of May, 1930.

O. D. HAMLIN	(Seal)
LYELL C. KINNEY	(Seal)
J. B. HARRIS	(Seal)
T. HENSHAW KELLY	(Seal)
EMMA W. POPE	(Seal)
GEORGE H. KRESS	(Seal)
MOTT H. ARNOLD	(Seal)
WILLIAM DUFFIELD	(Seal)
FRED R. DELAPPE	(Seal)
ALFRED L. PHILLIPS	(Seal)
ROBERT A. PEERS	(Seal)
HENRY S. ROGERS	(Seal)
JOSEPH CATTON	(Seal)
EDWARD M. PALLETTE	(Seal)
GEO. G. HUNTER	(Seal)
R. A. CUSHMAN	(Seal)
JOHN H. GRAVES	(Seal)
EDW. N. EWER	(Seal)
WALTER B. COFFEY	(Seal)
GAYLE G. MOSELEY	(Seal)

State of California

County of Monterey—ss.

On this first day of May, in the year one thousand nine hundred and thirty, before me, Frank C. Jakobs, a notary public in and for the County of Monterey, State of California, residing therein, duly commissioned and sworn, personally appeared

O. D. Hamlin	Alfred L. Phillips
Lyell C. Kinney	Robert A. Peers
J. B. Harris	Henry S. Rogers
T. Henshaw Kelly	Joseph Catton
Emma W. Pope	Edward M. Pallette
George H. Kress	George G. Hunter
Mott H. Arnold	R. A. Cushman
William Duffield	John H. Graves
Fred R. DeLappe	Edward N. Ewer

known to me to be the persons described in, whose names are subscribed to and who executed the within and annexed instrument, and acknowledged to me that they executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal, at my office in the county of Monterey, State of California, the day and year in this certificate first above written.

(Seal)

FRANK C. JAKOBS,

Notary Public in and for the County of Monterey, State of California.

My commission expires February 17, 1933.

State of California

City and County of San Francisco—ss.

On this second day of May, in the year one thousand nine hundred and thirty, before me, Marion Curtis, a notary public in and for the City and County of San Francisco, personally appeared Walter B. Coffey, known to me to be the same person whose

name is subscribed to the within instrument, and he duly acknowledged to me that he executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal, at my office in the City and County of San Francisco, the day and year in this certificate first above written.

(Seal)

MARION CURTIS,

Notary Public in and for the City and County of San Francisco, State of California.

My commission expires June 27, 1933.

State of California

County of San Bernardino—ss.

On this fifth day of May, in the year nineteen hundred and thirty, A. D., before me, D. M. Hayes, a notary public in and for said County of San Bernardino, State of California, residing therein, duly commissioned and sworn, personally appeared Gayle G. Moseley, personally known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal in said county the day and year in this certificate first above written.

(Seal)

D. M. HAYES,

Notary Public in and for the County of San Bernardino, State of California.

My commission expires March 22, 1931.

Minutes of the One Hundred and Ninety-Fourth Meeting of the Council of the California Medical Association

Approved at the One Hundred and Ninety-Sixth Meeting of the Council of the California Medical Association, September 27, 1930

Held in the offices of the Association, Room 2004, Four Fifty Sutter Building, 450 Sutter Street, San Francisco, California, Saturday, May 17, 1930, at 11 a. m.

Present.—Doctors Kinney, Harris, Pallette, Duffield, DeLappe, Hamlin, Rogers, Hunter, Cushman, Kress, Catton, Kelly, Ewer, and Pope; and Vice-Speaker Graves and General Counsel Peart.

Absent.—Doctors Arnold, Moseley, Phillips, Coffey, and Peers.

1. **Call to Order.**—The meeting was called to order by the chairman, Oliver D. Hamlin.

2. **Incorporation.**—Letter from Doctor Kress requesting information on the present status of the California Medical Association and the Medical Society of the State of California in regard to incorporation under the laws of the State of California was read.

Action by the Council.—On motion of Duffield, seconded by Kelly, the following resolution was unanimously adopted:

Resolved, That the correspondence on incorporation be turned over to Mr. Peart with the request that he submit a report on the incorporation of the California Medical Association and the Medical Society of the State of California at the next meeting of the Council.

At the request of the chairman, Mr. Peart stated to the Council that in accordance with the resolution of the House of Delegates duly adopted at the meeting thereof held at Coronado in 1929, it was necessary for the Council to prescribe, fix and approve the by-laws of the Trustees of the California Medical Association; that the Articles of Incorporation duly executed with certificate of approval of name by the superintendent of banks attached thereto, had been filed in the office of the Secretary of State of California, May 8, 1930, and that a copy thereof duly certified by the Secretary of State had been filed in the office of the county clerk of the City and County of San Francisco, May 12, 1930. Mr. Peart then ex-

plained that the next step necessary was the approval by the Council of the code of by-laws submitted in draft form some weeks ago to each member of the Council by mail. Mr. Peart then read the by-laws chapter by chapter and section by section, discussing and explaining the more important provisions contained therein. The question of liability of members was raised by Dr. George G. Hunter and Mr. Peart explained that this liability existed, as in stock corporations, in the proportion which one bears to the total number of members. Mr. Peart directed the attention of the Council to the fact that at previous meetings at which this question had been brought up, he had pointed out that by the use of the word "Limited" or the abbreviation "Ltd." in the name of the corporation members' liability was avoided and that the Council, in view of the intended use of the corporation, did not deem the matter material and did not wish to use the word "Limited" or its abbreviation in the name. Doctor Kress stated that it would be advisable to have copies of the Articles of Incorporation and by-Laws prepared and sent to all members of the Council for study. It was the sense of the Council that this should be done. The general counsel then read the proposed certificate of membership with endorsements and stub.

Action by the Council.—On motion of George H. Kress, seconded by Joseph Catton and unanimously carried, the following resolution was adopted:

Resolved, That the proposed by-laws of Trustees of the California Medical Association, a draft of which was heretofore submitted to each member of the Council as revised by the attorney and submitted to the Council at this meeting and the proposed certificate of membership of said corporation with endorsement and stub this day submitted to this meeting, true copies whereof are suffixed to these minutes, be and the same are hereby approved and adopted as the by-laws and certificate of membership for said corporation; and be it further

Resolved, That the Council hereby prescribes, fixes and determines the by-laws and the certificate of membership of said corporation as in said copy of said by-laws and said copy of said certificate set forth.

(Suffixed to the minutes of this meeting of the Council of the California Medical Association at which the foregoing resolution was adopted, is a copy of the by-laws of said corporation submitted as aforesaid and as adopted by the members and directors of said corporation and a copy of certificate of membership submitted as aforesaid, and as adopted by the directors of said corporation.)

The question of a proper seal was discussed and on motion of Kress, seconded by Catton and unanimously carried, the following resolution was adopted:

Resolved, That the chairman of the Executive Committee be deputized to prepare a seal for the Trustees of the California Medical Association; such seal to include the figures of a grizzly bear and a caduceus.

Mr. Peart stated that the cost of incorporation books, etc., would be \$50 or \$60.

Action by the Council.—On motion of Duffield, seconded by Kelly and unanimously carried, the following resolution was adopted:

Resolved, That the costs incurred in the matter of incorporation be paid by the secretary-treasurer out of the funds of the California Medical Association.

Action by the Council.—On motion of Kress, seconded by Hunter, the following resolution was adopted:

Resolved, That a recess of the Council be declared.

3. **Adjournment.**—After the recess, there being no further business to come before the Council the meeting adjourned.

OLIVER D. HAMLIN, *Chairman.*
EMMA W. POPE, *Secretary.*

(Copy of certificate of membership and by-laws of Trustees of the California Medical Association are here appended.)

Certificate No. _____

CERTIFICATE OF MEMBERSHIP IN TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

(A Nonprofit Coöperative Corporation Having No Capital Stock, Incorporated Under the Laws of the State of California, May 8, 1930)

This is to certify that _____, an active member of the California Medical Association and a councilor or an officer thereof according to the provisions of its constitution, is a member of Trustees of the California Medical Association, a coöperative corporation having no capital stock, whose business is not conducted or carried on for profit to itself or for the profit of its members.

This certificate and the membership in said corporation evidenced hereby and the interest of said member in said corporation or any of the assets thereof shall not (a) be subject to execution or become or be an asset of the estate of the member if deceased or insolvent or bankrupt, (b) descend to or vest in the heirs, legatees, or devisees of the member, or (c) be transferable or assignable in any form either by the voluntary or involuntary act of the member, or by operation of law. If the member ceases to be an active member of the California Medical Association and a councilor or an officer according to the provisions of the constitution thereof, or in the event of the death, insolvency, or bankruptcy of the member or of any attempted transfer or assignment of this certificate or the membership evidenced thereby or of any interest of the member in said corporation or any of the assets thereof, whether by the voluntary act of the member or otherwise, this certificate, the membership evidenced thereby, and all interest of the member in said corporation and all assets thereof shall thereupon be immediately canceled, revoked, and terminated.

The interest of the member in the aforesaid corporation is held by him in trust for the use and benefit of said California Medical Association, and by the acceptance of this certificate the member hereby expressly agrees and consents to be governed and bound by all of the provisions of the Articles of Incorporation and the By-Laws of this corporation, and all amendments to either thereof.

Issued and dated _____, 19____.

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION,

By _____ President.
And _____ Secretary.

The undersigned hereby accepts the above certificate of membership in Trustees of the California Medical Association and hereby expressly assents to and agrees and consents to be governed and bound by all of the terms, conditions, and provisions of said certificate, the Articles of Incorporation and By-Laws of said corporation, and all amendments to either thereof.

Dated _____, 19____.

(STUB)

Certificate No. _____

Dated _____, 19____.

Issued to _____

The undersigned hereby declares that his interest in Trustees of the California Medical Association, a nonprofit coöperative corporation having no capital stock, incorporated under the laws of the State of California, May 8, 1930, and any interest he may have by reason of such membership in the property of said corporation is held by him in trust for the use and benefit of the California Medical Association.

Certificate No. _____ Canceled this _____ day of _____, 19____.

(BACK)

The within certificate of membership issued to and accepted by the undersigned, as shown on the face thereof, is hereby endorsed and delivered by the undersigned to the secretary of Trustees of the California Medical Association.

Dated _____, 19____.

Member.

CERTIFICATE OF MEMBERSHIP IN TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

Issued to

The within certificate is hereby canceled this _____ day of _____, 19____.

Secretary of Trustees of the California Medical Association.

By-Laws of the Trustees of the California Medical Association

(Adopted on May 17, 1930. See Council Minutes of One Hundred and Ninety-Fourth Meeting)

CHAPTER I

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION, A NONPROFIT CORPORATION

Section 1. This corporation shall conduct and carry on its business without profit to itself or its members; is not organized and its business shall not be conducted or carried on for profit to itself or for the profit of its members.

Section 2. All of the income, revenue, and earnings from and/or the principal and corpus of the assets of the corporation unless otherwise limited, shall be held, used, managed, devoted, expended, and applied in the discretion and judgment of the board of directors to carry out the objects and purposes of the corporation and without profit, directly or indirectly, to any member of the corporation as such; and all beneficial interest of each member in this corporation and in and to all the assets thereof shall be held by him for the use and benefit of the California Medical Association; provided, however, that the officers, agents, and representatives of the corporation who may be selected and appointed whether from the members and directors or otherwise, shall be paid such reasonable salaries and compensation for work done or services performed for the corporation as the board of directors shall from time to time determine.

Section 3. No member of the corporation shall by reason of membership therein be or become entitled at any time to receive any assets, property, income, or earnings from the corporation or to profit therefrom in any manner save and except that a member may be selected or appointed as an officer, agent, or representative of the corporation and be paid such reasonable salary or compensation for work done or services performed as herein in Section 2 provided.

Section 4. In the event of the dissolution of this corporation all of its assets and property after payment and satisfaction and discharge of all claims and demands against, and liabilities of, the corporation, shall be paid over, distributed, conveyed and transferred to said California Medical Association (acting by and through the Council, viz., the board of councilors thereof), its nominee or nominees.

CHAPTER II

QUALIFICATIONS AND RIGHTS OF MEMBERS

Section 1. This corporation shall have no capital stock, but shall be composed of members. No person shall be qualified to be a member of this corporation until he shall first have become and be an active member of the California Medical Association, a voluntary association originally formed March 12, 1856, to promote and develop the art and science of medicine, the protection of public health and the betterment of the medical profession, and now having its offices and headquarters at Room 2004 Four-Fifty Sutter Building, 450 Sutter Street, San Francisco, California, and a councilor or other officer according to the provisions of the constitution as now existing or as it may hereafter be amended, of said association. Every person upon becoming an active member of said California Medical Association and a councilor or other officer according to the provisions of the constitution of said association as now existing or as hereafter amended, or both such councilor and officer, shall be entitled to become and shall be without other or any action or proceeding (and in accordance with this general rule) a member of this corporation, upon the issuance to and acceptance by him of a certificate of membership and giving his assent in writing to all the provisions of the Articles of Incorporation and the by-laws of this corporation and all the terms and conditions in such certificate of membership contained, and shall endorse said certificate in blank and deliver the same to the secretary of this corporation. Prior to the enrollment of his name as a member, each member shall make and execute a written declaration that his interest in this corporation,

Trustees of the California Medical Association, and any interest he may have by reason of such membership in the property of the corporation, is held by him in trust for the use and benefit of said California Medical Association. No member shall be required to pay any membership fee.

Section 2. Whenever any member of this corporation shall for any reason cease to be an active member and a councilor or such officer of said California Medical Association, he shall *ipso facto* and without notice or hearing cease to be a member of this corporation and it shall be the duty of the secretary hereof to cancel his certificate of membership and all of his interest in and to any of the funds and property of this corporation shall thereupon cease and determine, and no person ceasing to be a member of this corporation from whatever cause shall be entitled to any recompense or payment to him of any kind.

Section 3. The voting power and property rights and interest of each member of this corporation shall be equal to every other member of the corporation. Each member of the corporation shall be entitled to one vote on all propositions submitted to the members. At all of the members' meetings each member present in person or by duly approved proxy shall be entitled to one vote on each resolution, motion, matter, proposition or question acted upon and to one vote for each director to be elected at any of said meetings. Cumulative voting is expressly prohibited.

Section 4. Neither membership in this corporation, nor any certificate evidencing the same, nor the interest of any member in this corporation, or any of the assets thereof, shall (a) be subject to execution, or become or be, an asset of the estate of any deceased member, or of any member who may become insolvent or bankrupt, (b) descend to or vest in the heirs, legatees or devisees of any member, or (c) be transferable or assignable in any form, either by the voluntary or involuntary act of any member, or by operation of law. In the event of the death, insolvency or bankruptcy of any member or of any such attempted transfer or assignment of membership or of any certificate evidencing the same, or of any interest of any member in this corporation, or any of the assets thereof, whether by the voluntary act of the member or otherwise, such membership, certificate and all interest of any such member in this corporation, and all assets thereof, shall be immediately canceled, revoked and terminated.

Section 5. The number of members of this corporation shall be the aggregate sum of the number of councilors and officers of the California Medical Association, as provided by its constitution as now existing or as it may hereafter be amended, who qualify for membership herein.

Section 6. A roll of members shall be kept by the secretary, together with a list of the names of the persons who are councilors or officers, according to the provisions of the constitution of the California Medical Association as now existing or as the same may be hereafter amended, together with their respective terms of office.

CHAPTER III

CERTIFICATES OF MEMBERSHIP

Section 1. Certificates of membership shall be of such form and device as the board of directors may prescribe, and as may be provided by any legally constituted commission or officer thereof, and each certificate shall express on its face its number, date of issuance, and the person to whom it is issued. Certificates of membership shall be nontransferable. Issuance to and acceptance by a member of such certificate of membership shall be conclusive evidence of the consent of the member to become a member of this corporation, and of his agreement to comply with and be governed by all the provisions of the Articles of Incorporation and by-laws of this corporation. Certificates of membership in the corporation shall be issued to persons eligible therefor, and entitled thereto, in accordance with the Articles of Incorporation and these by-laws, and as may be provided by any legally constituted commission or officer

thereof. Certificates of membership in this corporation shall be canceled by the secretary whenever a member ceases to be eligible as such or whenever the membership of the member terminates in accordance with the provisions of the Articles of Incorporation and these by-laws. All certificates of membership shall be signed by the president or either vice-president, and by the secretary or the assistant secretary. The seal of the corporation shall be affixed thereto.

CHAPTER IV MEETINGS OF MEMBERS

Section 1. The first annual meeting of the members of this corporation shall be held at the office of the corporation on the fourth Saturday of May, 1931, at ten o'clock a. m., or if that day be a legal holiday, then at the same time and place on the next Saturday not a legal holiday. Thereafter, the annual meeting of the members of this corporation shall be held at the office of the corporation on the fourth Saturday of May of each year at ten o'clock a. m., or if that day be a legal holiday, then at the same time and place on the next Saturday not a legal holiday. Notice of all regular annual meetings is dispensed with.

Section 2. Special meetings of the members may be called at any time by the president or by resolution of the board of directors or by any nine members of the corporation, and all such calls shall be in writing and state the purpose of the meeting and be filed with the secretary. Upon the passage of such resolution or the filing of such call of meeting, the secretary shall forthwith fix a day and hour for such meeting, allowing necessary time for notice thereof, and shall forthwith give notice of the place, day and hour, and the purposes of the meeting and the person or persons by whom called by depositing in the United States mail at San Francisco, California, with postage fully prepaid, at least five days before the time appointed for such meeting, a written notice addressed to each member at his address as it appears on the books of the corporation; or if a member's address does not appear on the books of the corporation and is known to the secretary, to such known address, or if a member's address does not appear on the books of the corporation and is not known to the secretary, it may be addressed to him at San Francisco, California; in lieu of mailing, such notice may be personally delivered to any member at least five days before the day appointed for such meeting. No other notice of special meetings of members need be given.

Section 3. An entry of the service of notice of a special meeting of the members given in the manner above provided shall be made in the minutes of the proceedings of the members, and such entry, if read and approved at a subsequent meeting of the members, shall be conclusive on the question of such service.

Section 4. Any regular or special meeting of the members may adjourn from day to day or from time to time without notice, until its business is completed.

Section 5. Each member may register his address with the corporation by written notice thereof delivered by him to the secretary.

Section 6. A majority of the members of the corporation shall constitute a quorum, and if a quorum is present at any meeting it shall be competent to transact all business, except as otherwise herein, or by law provided. If a quorum is not present the members may adjourn the meeting from time to time until a quorum is present.

Section 7. When all the members of the corporation are present at any meeting, or when the members not represented thereat give their written consent to the holding thereof at the time and place the meeting is held, and such written consent is made a part of the records of such meeting, the proceedings had at such meeting are valid, irrespective of the manner in which the meeting is called or the place where it is held.

Section 8. Each member shall be entitled to vote by proxy appointed by instrument in writing sub-

scribed by such member delivered to the secretary prior to the date of meeting. All proxies shall be submitted to the secretary of the corporation for examination. The certificate of the secretary as to the execution and regularity of such power of attorney or proxy and as to the membership of the member shall be received as *prima facie* evidence of the right of the member to vote and of the authenticity and sufficiency of such proxy.

Section 9. At each annual meeting of the members, directors for the ensuing year shall be elected by ballot to serve for one year and until their successors are elected and accept office.

Section 10. All meetings of the members (other than as provided in Section 7 hereof) must be held at the office of the corporation.

CHAPTER V CORPORATE POWERS

Section 1. The corporate powers of this corporation shall be vested in a board of seven directors who shall be members of this corporation, and four directors shall constitute a quorum for the transaction of business.

CHAPTER VI DIRECTORS—TERM OF OFFICE—VACANCIES—POWERS AND DUTIES

Section 1. The directors shall hold office for one year and until their successors are elected or appointed or until removed as provided in these by-laws. Their term of office shall begin immediately after election and they shall serve without compensation.

Section 2. Any director may be removed from office as such by the affirmative vote of four-fifths of the members at any regular or special meeting of the members on written notice setting forth the reasons and grounds therefor mailed to such director at his last known address at least ten days prior to the date of such meeting, and after a hearing with full opportunity to such director to be heard, and another member elected to fill such vacancy for the unexpired term. Any director shall, upon ceasing to be a member of this corporation, immediately cease to be a director of this corporation, and the president, or any vice-president or the secretary shall thereupon declare his office vacant.

Section 3. The board of directors shall have power to call special meetings of the members whenever they deem it necessary; to appoint and remove at pleasure all agents and employees of the corporation and prescribe such duties for each of them as are not inconsistent with law or these by-laws, and fix their compensation and require from them security for faithful service; to conduct, manage and control the affairs and business of the corporation; and generally to exercise all the powers and carry out all the purposes of this corporation as prescribed by law, the Articles of Incorporation and these by-laws.

Section 4. The compensation of those executive officers who may receive compensation, as in these by-laws provided, shall be fixed by the board of directors.

Section 5. It shall be the duty of the directors in addition to the other duties imposed upon them by law and these by-laws, to cause to be kept a complete record of all their minutes and acts and of the proceedings of the members and to present a full statement at the annual meeting of the members showing in detail the assets and liabilities of the corporation and generally the condition of its affairs—a copy of such statement shall be rendered at least once a year to the House of Delegates and the Council of the California Medical Association and such statement shall be made to the House of Delegates and the Council of said California Medical Association whenever requested by either thereof; to supervise all officers, agents and employees, and see that their duties are properly performed; to cause to be issued to each member of this corporation a certificate of membership in this corporation; to manage, handle, conduct and maintain all property of the California Medical Association, conveyed, transferred and de-

livered to it; to invest and reinvest all money, funds and securities conveyed, transferred or delivered to this corporation by the California Medical Association or otherwise acquired by this corporation, and to create and conserve a reserve fund to be used for promoting the purposes of said California Medical Association.

Section 6. Any vacancy in the board of directors through death, resignation, disqualification, or other cause shall be filled by an appointee of the board who shall hold office until the next annual meeting of the members unless his successor be duly elected by the members at a members' meeting called therefor and held prior thereto. It is the duty of the directors to fill all vacancies of the board with all convenient dispatch as soon as a vacancy occurs.

Section 7. No resignation of a director shall take effect so long as such resignation would reduce the number of directors to a number less than that necessary to constitute a quorum of the board.

CHAPTER VII DIRECTORS' MEETINGS

Section 1. Regular meetings of the directors shall be held immediately after the adjournment of the annual meeting of the members at whatever hour such adjournment occurs and on the first Saturday in December, and on the third Saturday in January in each year, at the hour of ten o'clock a. m. and notice of all regular meetings of the board is hereby dispensed with. If any such Saturday shall be a legal holiday, then said meeting shall be held at the same hour on the next succeeding Saturday not a legal holiday.

Section 2. Special meetings of the directors may be called at any time by the president or by three or more of the directors. Such call shall be in writing, signed by the person or persons making the call, and shall state the purposes of the meeting and shall be filed with the secretary. The secretary shall forthwith fix the day and hour for such meeting, allowing necessary time to give notice thereof. Written notice of such meeting stating the place, day and hour, the purposes of the meeting, and by whom called, shall be given by the secretary at least forty-eight hours prior to the time set for such meeting by leaving same at the registered address of each director, or such notice may be sent to each director by enclosing the same in a sealed envelope and depositing it forty-eight hours before the time fixed for such meeting, in the United States mail at San Francisco, California, postage fully prepaid, addressed to him at the place where he usually receives mail, if such place be known to the secretary; or, if such place be not so known to the secretary, then such notice shall be so mailed to him at San Francisco, California. No other notice of special meeting of the directors need be given. An entry of the service of notice of a special meeting of the directors given in the manner above provided, shall be made in the minutes of the proceedings of the directors, and such entry, if read and approved at a subsequent meeting of this board, shall be conclusive on the question of such service.

Section 3. Each director may register with the secretary the street and number of the place where he desires all notices to be sent to him which are sent by mail.

Section 4. Meetings of the board of directors may be held at any place within the State of California fixed by a quorum thereof by resolution at any regular or special meeting of the board; provided, however, that unless such meeting is held in compliance with the provisions of Section 5 hereof, notice of the time and place of any meeting of the board held at any place other than at the office of the corporation shall be given as provided in Section 2 hereof.

Section 5. When all the directors of the corporation are present at any directors' meeting, however called or noticed, and sign a written consent thereto, on the record of such meeting, or if the majority of the directors are present, and if those not present sign in writing a waiver of notice of such meeting,

whether prior to or after the holding of such meeting, which waiver shall be filed with the secretary of the corporation, the transactions of such meeting are as valid as if had at a meeting regularly called and noticed.

Section 6. At meetings of the board of directors, business shall be transacted in such order as the board may determine from time to time by resolution. All meetings of the board of directors (other than as provided in Sections 4 and 5 hereof) shall be held at the office of the corporation.

Section 7. The directors shall not be entitled to receive any compensation directly or indirectly as directors of the corporation unless employed or appointed by the corporation to perform work or render services considered and deemed to be of such nature and extent by the board of directors as to entitle them to compensation therefor.

CHAPTER VIII OFFICERS

Section 1. At the organization meeting of the directors and thereafter at each regular meeting of the board of directors held immediately after adjournment of the annual meeting of the members at which the election of directors is held, the directors shall elect a president, first vice-president, second vice-president, secretary, assistant secretary, treasurer, and assistant treasurer, who shall hold office for one year and until their successors are elected or appointed unless sooner removed. The secretary, the assistant secretary and the assistant treasurer, may, but need not be, members of the board of directors. All the remaining officers must be chosen from the directors. All of the officers except the secretary and/or assistant secretary shall serve without compensation. The directors may also appoint such other officers, representatives, and agents as they may deem proper. One director may be elected or appointed to hold one or more offices except those of president and secretary. The directors may at any time at their pleasure with or without assigning any cause therefor, remove any officer, representative, agent, or employee elected or appointed by them.

Section 2. If the office of any officer becomes vacant by reason of death, resignation, removal, or otherwise, the board of directors shall elect a successor, who shall hold office for the unexpired term.

CHAPTER IX PRESIDENT

Section 1. The president shall preside over all the meetings of the members and directors and shall have the casting vote; he shall sign as president all certificates of membership in the corporation and all contracts, documents, deeds, mortgages, instruments and agreements in writing which have been first approved by the board of directors and shall sign all checks or drafts upon the funds of the corporation; he shall call special meetings of the directors whenever he deems it necessary and shall have, subject to the advice and approval of the board of directors, direction of the affairs of the corporation and generally shall discharge such other duties as may be required of him by the by-laws.

Section 2. In the absence or inability to act of the president, the first vice-president shall be and is vested with all of the powers and shall perform all of the duties of the president. In the event of the absence or inability to act of both the president and first vice-president, then the second vice-president shall be and is vested with all of the powers and shall perform all of the duties of the president. In such acts and in the execution of writings by either of such vice-presidents, it shall not be necessary to recite the absence or inability of any preceding officer to act.

CHAPTER X SECRETARY

Section 1. The secretary shall attend all meetings of the members and of the directors and record all votes and minutes of their proceedings in a book or books kept for that purpose; he shall keep the corpo-

rate seal and the book of certificates of membership, fill up and countersign all certificates issued, and he shall affix the corporate seal to all papers requiring a seal. He shall keep a roll of members in a book kept for that purpose. He shall serve all notices required either by law or the by-laws of the corporation. He shall countersign all contracts, documents, deeds, mortgages, instruments and agreements in writing which have been first approved by the board of directors and shall sign all checks or drafts upon the funds of the corporation; he shall cause to be kept and supervise and control the keeping of the accounts and books of the corporation, and he shall generally perform such other duties pertaining to his office as may be required of him by these by-laws or the board of directors.

Section 2. In the event of the absence or inability to act of the secretary, the assistant secretary shall act in his place and stead and shall be and is hereby vested with the powers and shall perform all the duties of the secretary and in such event it shall not be necessary to recite the absence or inability of the secretary to act.

Section 3. In case of the absence or disability of both the secretary and assistant secretary or their refusal or neglect to act, notices may be given and served by the president, or by any vice-president, or by any person thereunto authorized by the president.

CHAPTER XI TREASURER

Section 1. The treasurer shall safely keep all moneys and funds of the corporation which may come into his hands from time to time and shall approve in writing on the face of any check or draft of the corporation the expenditure of all funds of the corporation. The treasurer shall generally perform such other duties pertaining to his office as may be required of him by these by-laws or the board of directors. In the event of the absence or inability to act of the treasurer, the assistant treasurer shall act in his place and stead and shall be and is hereby vested with the powers and shall perform all of the duties of the treasurer; and in such event it shall not be necessary to recite the absence or inability of the treasurer to act.

CHAPTER XII DEPOSITORIES

Section 1. The board of directors shall from time to time designate one or more banks in San Francisco or elsewhere in the State of California, to act as depository or depositories of this corporation, with which the funds of this corporation and its securities shall be deposited; such funds shall be withdrawn from such depository or depositories only by check or draft of the corporation signed by the president or the first vice-president or the second vice-president and countersigned by the secretary or the assistant secretary and approved by the treasurer or the assistant treasurer. All securities of this corporation shall immediately upon receipt thereof by the corporation or any director or officer thereof be forthwith deposited by the secretary or the treasurer with a depository of this corporation for safekeeping, and after such deposit such securities shall be withdrawn only upon and by resolution of the board of directors.

CHAPTER XIII RESERVE FUND

Section 1. As soon as practicable in the judgment of the board of directors, the surplus funds of this corporation shall be deposited in savings banks at interest or invested in such securities as may be authorized by law for investment of the funds of savings banks in the State of California, which funds and securities shall be known as the reserve fund of this corporation. It shall be the duty of the members, directors and officers, as far as possible, to conserve, enlarge and build up such reserve fund.

CHAPTER XIV BOOKS AND PAPERS

Section 1. The books and papers of this corporation shall at all times during business hours be subject to the inspection of any active member of the California Medical Association.

CHAPTER XV FISCAL YEAR

Section 1. The fiscal year of this corporation shall begin on the fourth Saturday of May of each year.

CHAPTER XVI TRANSFER OF FUNDS OR PROPERTY

Section 1. The board of directors may at any time and in its discretion give, transfer, assign, or convey to the California Medical Association or any nominee thereof all or any of the money or other property, real or personal, of this corporation and without any consideration being received therefor.

CHAPTER XVII SEAL

Section 1. The corporation shall have a corporate seal consisting of a circle having on its circumference the words "Trustees of the California Medical Association, San Francisco, California, Incorporated, May 8th, 1930," with figures of a grizzly bear and the caduceus shown in the center.

CHAPTER XVIII AMENDMENTS

Section 1. These by-laws may be altered or amended or new by-laws adopted as follows: By written assent of two-thirds of the members of this corporation or by the affirmative vote of two-thirds of the members of the corporation at any annual meeting thereof or at any special meeting called for such purpose.

Minutes of the One Hundred and Ninety-Fifth Meeting of the Council of the California Medical Association

*Approved at the One Hundred and Ninety-Sixth
Meeting of the Council of the California
Medical Association, September 27, 1930*

Held in the offices of the Association, Room 2004, 450 Sutter Street, San Francisco, Wednesday, June 4, 1930, at 10 a. m.

Present.—Doctors Harris, Hamlin, Kelly, Arnold, DeLappe, Phillips, Rogers, Cushman, Ewer, Kress, Pope, and General Counsel Peart.

Absent.—Doctors Moseley, Coffey, Pallette, Kinney, Duffield, Hunter, Catton, and Peers.

1. **Call to Order.**—The meeting was called to order by the chairman, Oliver D. Hamlin.

2. **Minutes of the Council and Executive Committee meetings.**—The chairman of the Council stated that the minutes of the last two meetings of the Council and the last meeting of the Executive Committee had not been mailed to councilors. It was the sense of the Council that approval of the minutes lie over until the next meeting of the Council.

3. **In re Letter From Hewlett Club and Other Members of the California Medical Association on Certain House of Delegates Resolutions.**—Chairman Hamlin stated that, pursuant to the call for this special meeting of the Council, certain correspondence from members of the Hewlett Club and of some members of the San Francisco County Society was now before the Council for consideration. He stated the correspondence had to do with an editorial with appended resolutions unanimously passed by the House of Delegates at the recent Del Monte annual session, which had the caption "California Acquires Two Foundations for Cancer Research" and which was printed in the May issue of CALIFORNIA AND WESTERN MEDICINE, page 360.

Doctor Hamlin stated he would ask Doctor Kelly, who had all the data and was familiar with the points in question, to present the details to the Council.

Doctor Kress stated that since the men in the south were not entirely familiar with the situation,

he would request that the correspondence be taken up from the time it first came to the Association office and that Doctor Pope first report on the manner in which the letter from the Hewlett Club members came before the Council.

Doctor Pope then stated that late in the afternoon of Monday, May 19, she had received a telephone call from Dr. Dohrmann Pischel asking if he and Doctor Garland could come to the office and talk with her. Doctors Pischel and Garland arrived shortly before five o'clock and said they had been delegated by the Hewlett Club to present a letter from the club and certain members of the San Francisco County Society (about thirty in all). They stated their letter had to do with the resolution passed by the House of Delegates at Del Monte on April 30, 1930, in which appreciation was expressed for the donations which had brought into being the Kellogg Foundation for Cancer Research at San Francisco, and with the editorial comments or foreword to the said resolution which had appeared under the caption "California Acquires Two Foundations for Cancer Research" on page 360 of the May issue of CALIFORNIA AND WESTERN MEDICINE. Further, that they would like their own letter in regard to the same to be printed in the next or June issue of CALIFORNIA AND WESTERN MEDICINE.

Doctor Pope told them that CALIFORNIA AND WESTERN MEDICINE went to press on the 20th of each month, but that in emergency cases the closing date was not adhered to strictly. They asked for an answer as to publication within three days, but stated later that they only wanted an answer before the forms for the June issue of the JOURNAL were closed.

Doctor Pope stated that she had glanced at the letter, but had not noticed that it was addressed to the editor, and that during the discussion with Doctors Garland and Pischel it had passed through her mind that this was a question for decision by the Council. On arriving home that evening, Doctor Pope stated she telephoned the chairman of the Council, Doctor Hamlin, and told him of the contents of the letter and that he had authorized the letter which had been sent to all councilors. Doctor Pope stated that she had not told Doctor Hamlin that the letter was addressed to the editor since she was under the impression that it was addressed to the Council.

Doctor Kelly then read the letter sent out by Secretary Pope, also the letter of the Hewlett Club, the editorial which, with the approval of the Council at its last Del Monte meeting had been published in the May issue of CALIFORNIA AND WESTERN MEDICINE, and a letter from C. W. Durbrow, Esq., attorney for Doctor Coffey, who had written that Doctor Coffey being in Europe at this time, he felt it his responsibility as attorney for Doctor Coffey, to act on Doctor Coffey's behalf.

Doctor Kelly stated that as chairman of the Executive Committee he had taken the responsibility of giving a copy of the letter which Mr. Durbrow had sent to the Council, to representatives of the Hewlett Club. Doctor Kelly expressed his disapproval of Mr. Durbrow's letter. A letter from Doctor William Dock of San Francisco objecting to the language of Mr. Durbrow's letter was then read by Doctor Hamlin.

Mr. Peart and Doctor Kress expressed the opinion that the proper procedure would have been to have forwarded to the editor of CALIFORNIA AND WESTERN MEDICINE, the original letter from the Hewlett Club which was addressed to the editor.

It was also pointed out that the modified Hewlett Club letter of May 14, to which some signatures were attached, and which had been submitted on Tuesday, June 3, was changed in some respects from the original letter which had been filed with the secretary on May 19.

Mr. Peart then read an opinion which had been prepared by his associate, Sylvester McAtee, on the question of possible libelous matter contained in the letter of the Hewlett Club, in which opinion it was pointed out that the letter, if printed in CALIFORNIA AND WESTERN MEDICINE might be construed as a possible basis for a libel action.

Doctor Kelly informed the Council that he had asked the representatives of the Hewlett Club to call him on the telephone at 11:30 a. m. and he would then advise them whether or not the Council wished them to appear before it; but that they had come in person and were awaiting the Council's pleasure in the ante room, if it was the Council's wish to hear them. Doctors Kelly and Ewer expressed the opinion that it would be desirable to have the representatives appear before the Council. Doctors William Dock, Dohrmann Pischel and Donald Carson were then presented to the Council.

Doctor Hamlin told the committee that while the Council appreciated the right of members to disapprove of its actions, the members of the Council always made an earnest endeavor to act for the best interests of the Association and of scientific medicine as a whole.

Doctor Dock stated that the only thing that the members of the Hewlett Club were anxious to put on record was that they did not agree with the editorial comments and part of the resolution passed by the House of Delegates; that the letter that they had addressed to the editor was very hastily put together and they would be glad to make any changes requested to make it acceptable for publication; that they did not wish to get the Association into a law suit; but they did wish to put on record the fact that one of the features referred to in the letter was one which in their opinion the Association should not commend in any way, namely, the question of how publicity had been handled by Doctor Coffey. Doctor Dock stated that the letter was not meant as a personal attack on Doctor Coffey or a criticism of the House of Delegates. Doctor Dock stated they did not know whether the letter would be published in CALIFORNIA AND WESTERN MEDICINE but they had expected a reply telling them whether it should be changed or modified or if it was rejected for publication altogether.

In the discussion which followed it was brought out, that the original letter addressed to the editor by members of the Hewlett Club, and other San Francisco colleagues, and which was of date of May 14, 1930, had been presented to Secretary Pope on May 19, and that the said copy had one written signature and some thirty-four typewritten names. It was a copy of this letter which was sent out as an enclosure of the secretary's letter of May 20 to the members of the Council of the California Medical Association. It was also brought out in the discussion that on June 3, a redraft with certain changes had been left with Secretary Pope, this redraft having the same names attached thereto, but practically all in separate groups of signatures, which signatures had been pasted to the draft which was then left with Secretary Pope.

In reply to Doctor Dock, Doctor Kress, the editor of CALIFORNIA AND WESTERN MEDICINE, told Doctor Dock that he agreed that the Hewlett Club had a right to expect a reply from the editor, but as the editor had never received the original or a copy of the letter except as it came to him as a matter of presumable Council business he had not been in a position to reply to the committee, without going over the heads of the Council. Doctor Kress then read and gave to Doctor Dock a copy of his letter of May 21, which he wrote to Secretary Pope on the same day on which the matter first came to his attention, and requested that Doctor Dock acquaint his colleagues with this reply. Doctor Kress called the attention of Doctor Dock and the committee to the fact that while the brief introductory comments to the Cancer Research Foundation resolutions had been written by him, that those comments did not discuss the adrenal cortex extract experiments of Doctors Coffey and Humber, and had been read to the Council in regular meeting at Del Monte before being sent to the printer; and that it had been unanimously voted by the Councilors at that meeting to print the comments as they appeared on page 360 of the May issue of CALIFORNIA AND WESTERN MEDICINE. Also that a previous editorial in the March issue of

CALIFORNIA AND WESTERN MEDICINE entitled "Two Recent California Researches—the Aschheim-Zondek Pregnancy Test and the Coffey-Humber Cancer Experiments," had also received the unanimous approval of the Council, prior to publication.

Mr. Peart, Counsel of the Association, in reply to certain points brought out by Doctor Dock, stated that none of the correspondence had been referred to him for a legal opinion although to his mind, the editor and the legal counsel of the Association presumably had very special and direct interest in the matters under consideration, since a possible libel suit would especially concern them.

A general discussion then followed in which the embarrassments which had arisen in the matter were talked over from different angles by members of the Council and Doctor Dock.

At the conclusion of the discussion, on motion of Doctor Kress, it was voted:

That a vote of thanks be given Doctors Dock, Carson and Pischel for having come before the Council to explain in more detail what had been in the minds of the members of the California Medical Association who had signed the communication of May 14.

Action on the Hewlett Club Letter of May 14.—The Council then took up for consideration the Hewlett Club letters and the other letters and facts which had been brought out in the discussion at this special Council meeting and it was agreed, Doctor Kelly voting no, that the consensus of opinion of the members of the Council as brought out in the discussion, be prepared in proper form and that a committee consisting of the editor, the chairman of the Executive Committee, and the legal counsel be instructed to put the skeleton resolution as verbally agreed upon in general discussion, into proper form for submission in the minutes.

This committee later brought in the following resolution to be inserted into the minutes of this meeting, subject to the approval of the Council at its next duly called meeting:

Whereas, A certain communication dated May 14, 1930, signed by some thirty members of the California Medical Association, discussing certain editorial policies and a resolution of the House of Delegates of the California Medical Association, which appeared in the May issue of CALIFORNIA AND WESTERN MEDICINE was presented at the central office of the Association on May 19, 1930; and

Whereas, Said communication had been considered and discussed at a special meeting of the Council called for that purpose and held on the fourth day of June, 1930; and

Whereas, It would seem to the best interests of the California Medical Association and organized medicine that for the time being no action be taken thereon; the Council recognizing the while the right of all members to offer their viewpoints of the acts and policies of its governing bodies; now therefore be it

Resolved, That the said communication be not printed in the June issue of CALIFORNIA AND WESTERN MEDICINE but be placed in the file for further consideration.

Discussion was had of the reply to Mr. Durbrow's letter and on motion of Kress, duly seconded, the following resolution was adopted, Doctor Kelly voting no.

Resolved, That the chairman of the Council with the advice of the general counsel and the assistance of the chairman of the Executive Committee reply to the letter of Mr. Durbrow in the manner suggested by the Council.

5. (See footnote.)

6. **Adjournment.**—There being no further business the meeting adjourned.

OLIVER D. HAMLIN, *Chairman.*
EMMA W. POPE, *Secretary.*

Note.—Item 5 refers to the matter of group insurance, and publication will be made in due time.

Additional Minutes Relating to Action Taken by the Council on the Hewlett Club Letter of Date of May 14, 1930

Excerpted From the One Hundred and Ninety-seventh Meeting of the Council Held at Los Angeles, September 27, 1930. These Minute Items Approved by Mail Ballot of Council, on October 24, 1930

12. **Letter From the Hewlett Club and Other Members of the California Medical Association.**—The secretary read a letter dated July 29, 1930, addressed to the chairman, signed by T. Addis for the signers of the original letter, protesting against certain resolutions of the House of Delegates, and asking that immediate publication be made of the letter of protest and enclosing statement to be sent out to all members of the California Medical Association in the event that publication was refused. The secretary also read a letter dated August 28, 1930, signed by T. Addis for the signers of the letter of protest and addressed to the chairman, stating that the signers would not resort to publication in the form of a communication to members unless the Council should decide to refuse access to the society's publication, and that they would await the Council's decision on September 27.

Discussion was then had on the publication of the original letter. It was pointed out that an article had been published by Doctor Coffey giving his findings and that scientific experiments could now be carried on by others and the results thereof recorded. The advisability of publication of the letter in the Correspondence column which would be headed by a notice of nonresponsibility for the material contained thereunder was discussed. It was pointed out that such notice would not release the Association from responsibility for publication of libelous matter. The right of members of the Association in seeking publication of letters of criticism or disagreement with expressed policies was acknowledged, but the Council felt that such letters should be free from all libelous or untrue statements. The original letter of the Hewlett Club and other members of the Association filed with the secretary on May 19, 1930, and the amended letter filed with the secretary June 3, 1930, were then discussed in detail, and certain statements contained therein which might be construed as libelous were pointed out.

Doctor Coffey then outlined his investigations in connection with the adrenal cortex extract and discussed the publicity which had appeared in the newspapers. Doctor Coffey expressed the desire to meet with the signers of the letter from the Hewlett Club and certain members of the San Francisco County Medical Society in regard to the subject.

Doctor Kelly then spoke of the value of harmony within the Association and stated that three alternatives presented themselves: (1) To take no action, which would leave the members of the Association with the feeling that the Council had refused to give them what they had a right to; (2) to ask the signers to send in another letter eliminating possible libelous statements, which could be passed on by a committee of three before publication in the JOURNAL; (3) to do as Doctor Coffey has suggested and arrange a meeting with the signers before final request is denied or granted.

13. **Noon Adjournment.**—At this point adjournment was taken for luncheon.

14. **Call to Order.**—The meeting was called to order by the chairman, who stated that before discussion was resumed on the letters from the Hewlett Club, some of the minor matters on the docket would be dispensed with.

28. **Letters From the Hewlett Club and Other Members of the California Medical Association.**—The question of publication of the letters of the Hewlett Club was then brought up.

Action by the Council.—On motion of Pallette, seconded by Cushman and unanimously carried, the following resolution was adopted:

Whereas, It appears that the letter of members of the Hewlett Club and other members of this Association, filed with the secretary May 19, 1930, and

the amended letter filed with the secretary June 3, 1930, publication of which in CALIFORNIA AND WESTERN MEDICINE, is requested by the signers thereof, may, in the opinion of the attorney of this Association be hereafter adjudged to contain libelous matter; and

Whereas, It is, and always has been the policy of the Association, to hold the columns of the official journal of this Association open for the publication of any relevant communication from any of its members, when couched in proper, nonlibelous language; now, therefore, be it

Resolved, That said letters be not published in their present form; and be it further

Resolved, That the president-elect, the chairman of the Council, and the councilor-at-large from San Francisco, Joseph Catton, are directed to arrange a meeting with the signers of these letters, to lay before them certain facts relating to matters referred to therein for their consideration, and that Doctors Coffey and Humber be invited to attend this meeting, in accordance with Doctor Coffey's suggestion made at this meeting of the Council; and be it further

Resolved, That, if as a result of such conference said members desire to have a communication published and a letter may be prepared, which, in the opinion of the Executive Committee of the Association, is proper in its language and its statement of facts, the editor of CALIFORNIA AND WESTERN MEDICINE is hereby directed to publish the same; and be it further

Resolved, That a copy of this resolution be forwarded by the secretary to the signers of said letters.

O. D. HAMLIN, *Chairman*
EMMA W. POPE, *Secretary*

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION*

A Letter from the President

October 6, 1930.

To the Officers and Members of the Woman's Auxiliaries of the California Medical Association:

Dear Fellow Members:

By action of the Council of the California Medical Association, reprints of an editorial which appeared in the September issue of CALIFORNIA AND WESTERN MEDICINE, will shortly be sent to all county Woman's Auxiliaries. If your county unit does not receive its quota of these reprints, kindly write to the State Medical Association secretary, Dr. Emma W. Pope, 450 Sutter Street, Room 2004, San Francisco, making a request for same.

As president of the State Woman's Auxiliary of California, I am writing to urge that the officers have this editorial read at one of the meetings and that copies be then distributed or mailed to the members.

If the county auxiliaries are to move forward in organized form, it is essential they should all understand their relationship to the organized medical profession of California, to the State Woman's Auxiliary, and to the other county woman's auxiliaries. This reprint will help make these relationships more clear to all.

I would emphasize the desirability of forming a central committee in each county unit, each member of which should be a chairman of a subgroup, each subgroup in turn to carry on a special investigation of some field of public health or social service work concerning which your auxiliary should have from time to time a report.

* As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of officers should be forwarded to the state secretary-treasurer, Mrs. Dexter R. Ball, 2419 Bonnie Brae Street, Santa Ana, and to the California Medical Association office, Room 2004, 450 Sutter Street, San Francisco. Brief reports of county auxiliary meetings will be welcomed for publication in this column.

To accomplish this end to best advantage, our state program chairman, Mrs. Frank E. Coulter, president of the Orange County Woman's Auxiliary, has constructed an instructive six months' suggested program, building an educational foundation for future work, local or otherwise. Coincidentally, this progresses through the list of activities mentioned in the reprint. Mrs. Coulter also offers additional helpful suggestions which will accompany her formal program.

I would like to emphasize to our auxiliaries the importance of taking only an indirect interest in civic politics, in other words, that we should strive to obtain from our advisory committee of each county medical society the names of candidates who seemingly are most worthy of support, but we should be careful not to permit the names of county woman's auxiliaries to be used in the public pleas of having endorsed this or that candidate for office. In this way we will probably save ourselves considerable embarrassment when political situations complicate themselves, as they so often do in political matters.

I am sure you will agree that in the long run such a policy is the wiser method to follow.

We need particularly to stand back of the Legislative Committee of our California Medical Association, which does much constructive work in the interests of organized medicine, and it will probably be wise for the county auxiliaries to keep in touch with their state officers to know what we can do to aid them along these lines.

Emphasizing and urging self-education in these matters, may I suggest that each member read "Editorials," pages 611 and 612, August issue, CALIFORNIA AND WESTERN MEDICINE, containing two articles, "Medico-Economic Problems" and "A Proposed Chiropractic Initiative" (which latter fortunately failed to get on the ballot for lack of sufficient signatures).

I wish you to know also that your State Woman's Auxiliary officers are carrying on a definite program to promote the development of more county woman's auxiliaries and ask for fullest cooperation of all of you in all efforts toward that end.

With best wishes for the continued progress of our work,

Cordially yours,

EDNA B. PERCY, *President.*

Programs and Suggested Speakers for Counties Where County Health Unit Exists

SUBMITTED BY PROGRAM COMMITTEE OF WOMAN'S
AUXILIARY

September—"Why an Auxiliary."

Speaker, if possible, one of the State Auxiliary officers, preferably the state president or Doctor Duffield.

October—"Working Principles of Our Own County Health Unit."

Health officer.

November—"Common Defects in Children" or "Contagion and Immunization."

School physician.

December—"Teeth and Their Relation to Health."

School dentist.

January—"What We Are Doing for the Physically Underprivileged Child."

Member of staff preventorium.

February—"Mental Hygiene."

Local psychiatrist.

March—Book Review.

a. "The Human Mind" by Menninger.

b. "What Our County Is Doing for Its Mentally Ill."

Member Educational Committee.

April—"Our State Health Laws, Their Accomplishments and How They Affect Us."

Member Legislative Committee, County Medical Association.

Programs and Suggested Speakers for Counties Where No Health Unit Exists

- September—"Why An Auxiliary."
Speaker, if possible, one of the State Auxiliary officers, preferably the state president or Doctor Duffield.
- October—"Advantages of County Health Unit."
Member of local auxiliary—Using program of Woman's Auxiliary of the American Medical Association as reference.
- November—"Common Defects in Children."
Local pediatrician. Member of the California Medical Association.
- December—"Contagion and Immunization."
Member of County Medical Association.
- January—"Local Health Problems."
This may include milk, bread, or water supply, and housing problems.
- February—"What Our County or State Is Doing for the Mentally Ill."
Superintendent of State Hospital for Insane.
Superintendent of County Hospital.
Superintendent of Private Sanitarium.
- March—Book Review.
"The Human Mind" by Menninger.
- April—Book Review.
"Biography of the Virginal Mind" by Dakin, or
"Our State Health Laws, and Their Achievements and How They Affect Us."
Member Legislative Committee, County Medical Association.

At each meeting of each auxiliary, medical current events, including new discoveries, new accomplishments and happenings of special interest to the medical profession.

The Educational Committee should be alert to tie together the address as presented by the speaker to local conditions. I should also feel that this committee should also present to the auxiliary some local needs—drinking fountains, hospital library, comforts for indigent, and milk for underprivileged children as local conditions may present. This is all an important part of the program, but must be worked out according to local needs.

(MRS.) FRANK EDWIN COULTER,
Chairman Program Committee.

NEVADA STATE MEDICAL ASSOCIATION

W. A. SHAW.....	President
R. P. ROANTREE, Elko.....	President-Elect
H. W. SAWYER, Fallon.....	First Vice-President
E. E. HAMER, Carson City.....	Second Vice-President
HORACE J. BROWN.....	Secretary-Treasurer
R. P. ROANTREE, D. A. TURNER,	
S. K. MORRISON.....	Trustees

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society met in the Nevada State Building on the evening of October 14. Dr. E. E. Creveling, vice-president, presided. Following the usual routine of business, the secretary read, in the absence of Doctor Thompson, a very brief paper on "Cerebrospinal Fluid Findings Following Cerebrospinal Meningitis." Also the findings, as known today, on Encephalitis Lethargica.

Following this the secretary read the names of the society members and noted, with the exception of a few individuals, that all the regular practicing physicians of this county are identified with the society.

Dr. J. L. Robinson, who has been very active in the work for the County Community Hospital, gave a brief talk, explaining some of the mooted legal

points which might possibly call for further explanation before the proposition goes on the ballot at the November election. The indications are that Washoe County will vote by a large majority their approval to authorize a change in the present system of county hospitalization.

The County Library Committee reported that the Library Association would spend several hundred dollars per year to place approved medical journals and other publications on file for the benefit of the medical and lay public.

Following this, the society was splendidly entertained by a four-reel movie on "Traumatic Surgery," very generously furnished for the use of the society by the Davis & Geck suture people of Brooklyn, New York. The picture was modern to the last minute. There was a good representation of the membership present.

THOMAS W. BATH, Secretary.

UTAH STATE MEDICAL ASSOCIATION

WILLIAM L. RICH, Salt Lake City.....	President
R. A. PEARCE, Brigham City.....	President-Elect
M. M. CRITCHLOW, Salt Lake City.....	Secretary
J. U. GIESY, 701 Medical Arts Building,	
Salt Lake City.....	Associate Editor for Utah

COMPONENT COUNTY SOCIETIES

SALT LAKE COUNTY

The regular meeting of the Salt Lake County Medical Society was held at the Salt Lake General Hospital Monday, September 22.

The meeting was called to order at 8:10 p. m. by President M. M. Nielson. Forty-one members and eleven visitors were present.

The minutes of the meeting of June 9 were read and accepted without correction.

The following clinical program was presented:

Rheumatic Fever, Doctor Van Scoyoc; Amebic Abscess of Liver, Doctor McNeil; Treatment of Osteomyelitis, Doctor Snow; Exostoses of Knee Joint, Doctor Stegman; Plastic Surgery, Doctor Alexander; Meckel's Diverticulum, Doctor Woolsey.

The application of J. E. Felt was read and turned over to the board of censors.

Doctor Fields gave a verbal report of the Committee of Credits, and L. N. Ossman moved that this committee be continued until some action could be recommended. Seconded and carried.

President Nielson read the report of the Salt Lake Visiting Nurses' Association, and urged that physicians utilize this service.

F. Spencer announced that a special car had been secured to take members of this society to the Nevada state medical meeting on the 26th and 27th of September at Reno. He informed the society of the program and the various arrangements made for the trip.

R. J. Alexander stated that the new social service worker at the hospital frequently called up physicians regarding questionable charity patients, and urged that the doctors give her every possible consideration in the course of such conversations.

M. M. Nielson announced that the Necrology Committee had formulated a resolution to be sent to the family of Mark Brown, who at one time was a member of this society.

M. M. Nielson announced that the next meeting would be held at an irregular date, to be announced later, because of the fact that some difficulty was being encountered in obtaining an out-of-town speaker.

The meeting adjourned at 9:50 o'clock, after which refreshments were served by the nurses.

BARNET E. BONAR, Secretary.

MINUTES OF THE 1930 ANNUAL SESSION OF THE UTAH STATE MEDICAL ASSOCIATION

First Meeting of the House of Delegates

Held at the Memorial House, Memory Grove, Salt Lake City, Utah, September 9, 1930, at 12 m.

I. **Call to Order.**—The president called the meeting to order.

* * *

II. **Roll Call.**—The secretary called the roll and declared a quorum to be present.

* * *

III. **Reading of Minutes.**—On motion of Doctor Kahn, seconded by Doctor McHugh and carried, reading of the minutes was dispensed with.

* * *

IV. Presentation of Reports:

1. **Committee on Credentials.**—The Committee on Credentials reported that the delegates and representatives from the component societies were present and seated.

2. **Report of the President** was given by Doctor Kirtley.

3. **Report of the Secretary.**—On request of the chair, Doctor Critchlow submitted his report for the year 1929-1930.

4. **Report of the Treasurer.**—On request of the chair, Doctor Le Compte submitted his report.

5. **Report of the Council.**—The chair presented the apologies of Doctor Goeltz, stating that Doctor Goeltz would be absent a month or six weeks.

6. **Reports of Committees.**—(a) Committee on Scientific Work—The secretary read the report in the absence of Dr. Gill Richards, chairman.

(b) Committee on Public Policy was read by the Secretary.

(c) Committee on Publication rendered no report.

(d) Committee on Medical Defense—At the request of the chair, Doctor Root reported that his written report was in the hands of the secretary. As the secretary had not brought the report to the meeting, Doctor Brown asked that Doctor Root discuss the vital point in his report, the necessity of medical defense.

Discussion followed and the president suggested that the chairman present a resolution that an attorney be retained by the Utah Association who could be consulted by the Association.

(e) Committee on Medical Education and Hospitals—At the request of the chair, Dr. L. J. Paul presented his report.

(f) Committee on Medical Economics report was given by the secretary.

(g) Committee on Public Health—The secretary stated no report had been submitted by the committee.

(h) Committee on Necrology—Doctor Brown reported that his committee would not be ready to submit a report until the following day.

(i) Committee on Local Arrangements—At the request of the chair, Dr. C. J. Pearsall, chairman, submitted his report.

* * *

V. New Business:

1. **United States Reserve Officers Regulations.**—The secretary read a letter from the Minnesota State Medical Association requesting endorsement of the following resolution:

Whereas, The present Army regulations require that every reserve officer shall, during each five years' commission period, put in two hundred (200) hours' military work, in camp, correspondence school, inactive training meetings, or similar military activity, or else become ineligible for renewal of his commission with assignment to an Organized Reserve Unit, and therefore revert to the "Auxiliary Reserve" in time of peace; and

Whereas, There are many highly trained, highly skilled and very active physicians who, as reserve officers, have

been assigned as chiefs and assistant chiefs of surgical, medical, laboratory, roentgen and other distinctly professional services in Organized Reserve Hospital Units, carrying very little administrative responsibility, and whose professional duties in busy private lives make them especially well fitted for their duties in their army assignments, but whose same duties make it practically impossible for them to carry on military work in time of peace; and

Whereas, Many of these men and their valuable attainments are being lost to the Organized Reserve, although they are willing and anxious to serve in time of need and do not aspire to advancement in grade; therefore, be it

Resolved, That the Minnesota State Medical Association, desiring that the medical profession may be of the greatest service to our country, respectfully suggests that the service might be enhanced if the regulations were changed to provide for recommission and reassignment of chiefs and assistant chiefs of professional services of hospital units even though they have not completed the required amount of military work; and further, be it

Resolved, That a copy of this resolution be sent to the surgeon and commanding general of the Seventh Corps Area, the surgeon general, the officer in charge of Reserve affairs, the adjutant general, and the chief of staff of the United States Army.

On motion of Kerby, seconded by Stookey, the matter was referred to a special committee for report to the House of Delegates at the next meeting.

The president appointed Colonel Kerby, Colonel Benedict, and Major Critchlow members of the special committee.

2. **Washington Memorial.**—The secretary presented a letter from the United States Commission for the Celebration of the Two Hundredth Anniversary of the Birth of George Washington, together with the following resolution:

Whereas, The Congress of the United States has created a commission to arrange a fitting nation-wide observance of the two hundredth anniversary of the birth of George Washington in 1932; and

Whereas, The commission so created, composed of the President of the United States, the Vice-President of the United States, the Speaker of the House of Representatives, four members of the United States Senate, four members of the House of Representatives, and eight citizens appointed by the President of the United States, is charged with the duty of planning and directing the celebration; and

Whereas, The high purpose of the event is to commemorate the life, character and achievements of the most illustrious citizen of our republic and to give every man, woman and child living under the Stars and Stripes an opportunity to take part in the celebration which will be outstanding in the world's history; and

Whereas, The George Washington Bicentennial Commission, desiring the full cooperation of the people in the United States, has extended a most cordial and urgent invitation to our organization to participate in the celebration; therefore, be it

Resolved, That the Utah State Medical Association does hereby endorse the program of observance of the two hundredth anniversary of the birth of George Washington, to take place in 1932; accepts with appreciation the invitation of the George Washington Bicentennial Commission, and pledges this organization to extend earnest cooperation to the United States Commission in all possible ways so that future generations of American citizens may be inspired to live according to the example and precepts of Washington's exalted life and character, and thus perpetuate the American Republic; and be it further

Resolved, That this resolution be incorporated in the official proceeding of this meeting and that a copy thereof be transmitted to the George Washington Bicentennial Commission, Washington, D. C.

On motion of Critchlow, seconded by Kirtley, the foregoing resolution was adopted.

3. **Annual Dues.**—Doctor Le Compte, treasurer of the association, moved that the annual dues be increased to \$7. Doctor Le Compte's motion was seconded and carried. The president requested Doctor Le Compte to put his motion in the form of a resolution that it could be referred to the Reference Committee. (Motion to increase dues was defeated the following day.)

* * *

VI. **Adjournment.**—There being no further business the meeting adjourned to meet at the close of the general session on the following day.

Second Meeting of the House of Delegates

Held at the Memorial House, in Memory Grove, Salt Lake City, Utah, September 10, 1930, at 1 p. m.

The president stated that Mr. Goldings had modified his statement that there were 677 licensed doc-

tors in Utah, giving 585 as the number of regularly licensed doctors of medicine, the others belonging to other schools of medicine than the regular M. D.'s.

I. Call to Order.—The meeting was called to order by President Kirtley.

* * *

II. Roll Call.—The secretary called the roll and a quorum was reported present.

* * *

III. Reading of the Minutes of the First Meeting. The secretary read the minutes of the first meeting of the House of Delegates, and there being no objections the minutes were approved as read.

* * *

IV. Report of the Reference Committee.—The president then declared the next order of business was the presentation of the report of the Reference Committee. Doctor J. Z. Brown, chairman, then presented the following report on behalf of his committee:

Commendation of Work of Officers.—We compliment our president, Doctor Kirtley, on the efficient service he has given us during his term of office. The brevity of his report is in no way an index to the enormous amount of arduous work he has done.

We likewise commend the very efficient labors of our secretary, who is by far the most heavily burdened officer of our organization. He must attend to so many details.

We heartily approve the efficient manner in which the treasurer safeguards our funds. His vouchers are so drawn that they must first be approved by the secretary and inspected by the president before they are issued.

Increase in Membership.—Your Reference Committee urges that vigorous efforts be made by all the component county societies to enroll all registered physicians as members. If we succeed in gathering in as many as 50 per cent of them there will be no need of raising the dues to increase revenue. Let us increase membership rather than dues.

Tax on Earned Incomes.—We endorse the recommendation of the Council that the Public Policy Committee pay special attention to the proposed state tax on earned incomes—to attend meetings and oppose it, and further that they scrutinize closely the deliberations of the legislature which meets in January, 1931.

Associate Membership.—In going over the Constitution of the State Association, we find we have no provision there for associate members. Now this was read by the Council and returned to the Salt Lake County Medical Society, I suppose, for further consideration. Your committee recommends that this be referred to the American Medical Association for suggestions.

Coöperation with Committee on Medical Defense.—We urge that the society, through its secretary, urge men that are threatened with lawsuits to coöperate with these committees. The recommendation which this committee makes is as follows: A very great deal of thought has been given by your committee and others interested regarding the matter of creating a medical defense fund by the state society, sufficient for a retainer, by the year, of a competent and trained medical defense attorney, in order that your committee may at all times have competent legal advice; and probably thereby prevent many of the court cases. Also, this fund should be large enough to cover minimum expenses in court attendance by medical men who may be desired to be present at court and not otherwise financially provided. The committee heartily endorses the adoption of such a measure.

Committee on Medical Education.—We endorse the recommendation of the Committee on Medical Education. There is one suggestion here that this committee recommends which Doctor Paul read yesterday: "The president of the university and the dean

of the medical college called the attention of the committee to the need for donations or bequests from wealthy citizens of this state or surrounding country. It was suggested that steps be taken by influential members of the State Medical Association to solicit or create interest in this direction. The names of several influential persons were suggested, but the chairman of this committee did not feel authorized to direct the interviews or communicate with influential persons without specific authority from the Utah State Medical Association. It is therefore, recommended by this committee and by the authorities at the University of Utah that steps be taken by the Utah State Medical Association, either through publicity or the appointment of a special committee, to create interest and secure, if possible, the assistance of influential, wealthy people of this state in establishing either memorials or scholarships at the University of Utah Medical Department."

In connection with this the committee endorses this recommendation very heartily.

In connection with this I wish to state that in Salt Lake County we had an organization known as the Community Clinic. It was begun and fostered by philanthropic people and it ran for a number of years, but finally degenerated and dissolved. Along this same line a radium organization was effected and this radium has been used by the Radium Company, and after the thing had gone on for some length of time the company began buying the stock of different donors who had purchased it. The Radium Company have now reorganized their organization with one representative of each of the four hospitals serving on the board. In December, \$600 was donated to the Salt Lake County Medical Society for library purposes as the income for the year.

If these matters can be properly presented to the average layman wherein they can see that we are working for the welfare of the community and also for the welfare of the profession, many wealthy people will make contributions.

Committee on Public Health.—We have received no report from the Committee on Public Health.

Committee on Necrology.—I have a report from the Committee on Necrology, which will be published in CALIFORNIA AND WESTERN MEDICINE.

We compliment the work of the committees on necrology and postgraduate work.

Commendation of Committee on Arrangements.—We especially congratulate Doctor Pearsall, chairman of the local committee on arrangements, together with the committees on banquet, entertainment and golf, transportation and housing, on the efficiency and dispatch with which they look after our comfort.

The Reference Committee recommended the adoption of the report as a whole.

Doctor Brown moved that separate discussion first be had on that section of the report on associate memberships. After discussion, Doctor Brown's motion was seconded and carried.

Doctor Brown's original motion that the report of the Reference Committee be accepted was then seconded and carried.

The question of necessary change in by-laws for associate membership was fully discussed, and on motion duly made and seconded, a special meeting of the House of Delegates was voted. On motion of McHugh, duly seconded and carried, the following resolution was then adopted:

Resolved, That this State Association permit the component county societies to elect to their membership associate members, these members to enjoy all the rights and privileges of the society except that of voting or holding office; and that these associate members shall not be eligible to regular membership.

The president announced that a special meeting would be held the following day to vote on the proposed by-law.

There being no other amendments, miscellaneous business was then taken up.

* * *

V. Miscellaneous Business:

1. *Retainer for Legal Counsel.*—The secretary stated that the House of Delegates wished to present the following resolution for consideration:

Resolved, That it be the sense of the House of Delegates that a competent attorney with special training for medical defense be retained yearly to supervise and consult with the committee on medical defense, be employed to assist in suits against the members for malpractice, or in case there is no attorney otherwise employed to assume medical defense.

Doctor Root moved for the adoption of the resolution; such motion being duly seconded.

Full discussion was then had of the question, and the chair called for a rising vote on the resolution. The "ayes" carried.

2. *Reserve Army Corps.*—At the request of the chair, Doctor Kerby, chairman of the Special Committee on Reserve Army Corps, presented the following resolution:

Whereas, The present army regulations require that every medical reserve officer shall, during each five years' commission period, put in two hundred (200) hours military work—in camp, correspondence school, inactive training meetings, or similar military activity—or else become ineligible for renewal of his commission with assignment to an organized reserve unit, and therefore revert to the "auxiliary reserve" in time of peace; and

Whereas, There are many highly trained, highly skilled and very active physicians, who, as reserve officers, have been assigned as chiefs and assistant chiefs of surgical, medical, laboratory, roentgen and other distinctly professional services, and in positions requiring special technical skill such as is usually possessed by specialists, carrying very little administrative responsibility, and whose professional duties in busy private lives make them especially well fitted for their duties in their army assignments, but whose same duties make it practically impossible for them to carry on military work in time of peace; and

Whereas, Many of these men and their valuable attainments are being lost to the organized reserve, although they are willing and anxious to serve their country in time of need and do not aspire to advancement in grade; therefore be it

Resolved, That the Utah State Medical Association, desiring that the medical profession may be of the greatest service to our country, respectfully suggest that the best interests of the military service might be enhanced if the regulations regarding the organized reserve were changed to provide for the recommission and reassignment of officers holding assignments such as those mentioned in the second paragraph, even though they may not have completed the required amount of military work, and hereby recommend consideration of such change; and further be it

Resolved, That a copy of this resolution be sent to the corps surgeon and the commanding general of the Ninth Corps Area, the surgeon general of the army, the officer in charge of organized reserves, the adjutant general of the army, the chief of staff of the army, and the secretary of each state medical association.

On motion duly made and seconded, the resolution was adopted.

3. *Standing Committee on Military Affairs.*—Doctor Kerby moved that a standing committee on military affairs be had and that a change be made in the by-laws to permit this, if necessary.

4. *Illness of Dr. Mark Brown.*—On motion of Doctor McHugh, seconded by Kerby and carried, it was

Resolved, That the House of Delegates express a wish for the speedy recovery of Doctor Brown with an accompanying gift of flowers.

* * *

VI. *Place of 1931 Meeting.*—On motion of Doctor Kahn, seconded by Doctor Bonar and carried, Salt Lake City was set as the place of meeting for 1931.

* * *

VII. *Election of Officers.*—The following officers were elected: President-elect, Dr. R. A. Pearse of Brigham City; first vice-president, Dr. James Kerby of Salt Lake City; second vice-president, Dr. L. J. Stookey of Price; third vice-president, Dr. Albert H. Aland of Ogden; treasurer, Dr. F. H. Haley of Salt Lake City.

* * *

VIII. *Election of Delegates and Alternates.*—Dr. Edwin D. LeCompte of Salt Lake was elected delegate to the American Medical Association and Dr. Sol G. Kahn of Salt Lake was elected alternate.

* * *

IX. *Election of Councilors.*—Dr. J. Z. Brown of Salt Lake was elected councilor for the second district and Dr. W. T. Elliott of Helper, councilor for the third district.

* * *

X. *Adjournment.*—There being no further business the meeting adjourned.

Third Meeting

Held in the Memorial House, in Memory Grove, Salt Lake City, September 11, 1930, at 12:15 p. m.

I. *Call to Order.*—The meeting was called to order by the president, W. L. Rich of Salt Lake City.

* * *

II. *Roll Call.*—The secretary called the roll and the president declared a quorum present.

* * *

III. *Reading of the Minutes.*—The minutes of the previous meeting were read, and on motion duly made and seconded, were approved as read.

* * *

IV. Old Business:

1. *Amendments to the By-Laws.*—(a) That Chapter VII, Section 1 of the by-laws of the Utah State Medical Association be amended so that there will be added to the list of already existing standing committees a Committee on Military Affairs.

On motion of Dr. J. P. Kerby, duly seconded, the above amendment was approved.

(b) Amendment to Chapter II, Section 3, insertion of the word "regular" in the clause "shall be eligible to regular membership," and by the addition of "any scientist holding a doctor's degree eligible for associate membership in each component county society. Such associate members shall pay the regular dues, but shall not be entitled to vote or hold office."

(c) Amendment to Chapter III, Section 2, insertion of the word "regular" before "members" so that it will read, "Each county society shall be entitled to send one delegate for each ten full paid regular members or major fraction thereof."

After discussion of the meaning of the term "doctor's degree," Doctor Burns moved to restrict membership to men holding an M. D. or a Ph. D. degree, specifying that if they hold a Ph. D. they must be associated with the teaching practice.

Doctor Burns' motion to amend was duly seconded and carried. The original motion to adopt the amendment to Chapter II, Section 3, and Chapter III, Section 2, was then seconded and carried.

* * *

V. *Adjournment.*—There being no further business the meeting adjourned.

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Admission Procedure in University of California Out-Patient Department.—The out-patient department of the University of California Medical School is open daily from 8:30 a. m. until 1:30 p. m.

It is the earnest endeavor of the administration to coöperate fully with the members of the medical profession in carrying out this work, and, while taking pains to exclude all patients able to pay for medical care, to provide fully and effectively for those who are not. It is hoped that physicians who find certain of their patients to be in temporary financial distress will refer these to the clinics. Every effort possible is taken to see that such patients are returned to their personal physicians whenever their financial affairs improve sufficiently to make payments of fees possible.

When patients visit the clinics on their own initiative the admission officers do their best to communicate with the physician named as the practitioner who last cared for the applicant. Investigations are made and all applicants who are able to pay even a moderate physician's fee are refused admission to the clinic. Such prospective clinic patients are referred to their own doctor, or if they claim to have none, they are sent for advice to the secretary of the county medical society of the community in which they live.

Southern California Medical Association Meeting.

The eighty-third semi-annual meeting was held at the Hotel Virginia, Long Beach, on Friday and Saturday, October 31 and November 1.

In addition to papers by members, papers were presented by the following guests: Arthur L. Bloomfield, professor of medicine, Stanford University; Alfred C. Reed, professor of tropical medicine, University of California; J. Tate Mason of Seattle; and Verne C. Hunt, formerly of the Mayo Clinic.

There was also shown one of the first talking motion pictures on surgery as yet completed, on Pott's fracture.

The Annual Meeting of the California Section of the American Sanatorium Association will be held at Olive View Sanatorium, San Fernando, on Wednesday, November 12, 1930, at 9:30 a. m.

Speakers on the program are: Mr. H. M. Andrews, assistant superintendent, Olive View Sanatorium; Dr. E. A. Schaper, superintendent and medical director of Stonybrook Retreat; Dr. Everett Morris, superintendent and medical director of Wish-i-ah Sanatorium; and Dr. Chesley Bush, superintendent and medical director of Arroyo Sanatorium.

Alumni Day for Medical School Planned November 21.—Dean Langley Porter of the University of California Medical School announced that the next Alumni Day of the institution will be held on Friday, November 21. Invitations and programs will be sent to all practicing physicians of the state who are graduates of the university.

The program of the day will include ward rounds and operative clinics in the morning, and lectures and moving pictures and demonstrations in the afternoon.

Nursing Education.—The annual institute of the California League of Nursing Education, Northern Branch, is to be held at the Clift Hotel in San Francisco early in January, 1931.

Mrs. Elizabeth Soule, professor of nursing education, School of Science, University of Washington, has been secured to lead the institute. Mrs. Soule, who is nationally recognized as one of the leading nursing educators, is at present making a study of hospitals in Austria, Italy, Germany, and England. The Rockefeller Foundation has granted her a three months' scholarship for this work. The institute comes at a particularly opportune time, as Mrs. Soule will have recently returned from Europe and should have information of interest to all.

The program will include discussions on various phases of nursing work, and the interests of all nurses throughout California—private duty, public health, and institutional—will be thoroughly considered. The present plan for the institute provides for a talk by Mrs. Soule, both morning and afternoon of each day, followed by open discussion from the floor.

MUCH IN LITTLE *

Don't omit daily examination of ears in acute pneumonitis, especially in children.

Don't trust the nurse or patient with verbal instructions. Write them.

Don't be hasty with the diagnoses of hysteria and neurasthenia, unless conjunctival and pharyngeal reflexes are absent.

Don't omit "transillumination" in scrotal tumors. A hydrocele won't "reduce."

Don't prescribe pills for vomiting of brain tumor and intestinal obstruction.

Don't forget to rule out pulmonary tuberculosis in all patients with ischiorectal abscess and fistula. ("No internal opening to a fistula or a blind fistula, usually means a blind doctor.")

Don't be afraid to say, I don't know; it's not self-effacing.

Don't knock your fraternal M. D.
No doubt you have heard that before;
Still you keep on handing it to him,
Boosting and increasing his practice the more.

* Members of the California, Nevada, and Utah Medical Associations are invited to contribute to this column of aphorisms, which will appear from time to time in California and Western Medicine, as sufficient copy accumulates. The aphorisms in this issue were sent in by John William Shuman, M. D., Los Angeles.

CORRESPONDENCE

Subject of Following Letter: Last Month's "Bedside Medicine" Discussion of "Strabismus—When to Operate"

San Francisco, October 16, 1930.

The Editors: In offering a subject for "Bedside Medicine" column of CALIFORNIA AND WESTERN MEDICINE ("Strabismus—When to Operate"), which appeared in the October number, I did not know that it would be submitted to others to serve as a basis for discussion. Certain statements by the other discussers call for reply, therefore I hope this communication will be given a place to "close the discussion."

First, I wish to thank Doctor Barkan for his most complimentary remarks. Apparently he has been converted to my ideas as well as to my operation. The following similar comment was made by Doctor McCool in a paper on my operation before the 1929 meeting of the American Academy of Ophthalmology and Otolaryngology.

"Personal friendship coupled with a common interest in ocular muscle problems led me to try the operation shortly after his (O'Connor's) original paper was published and for the *past twelve years I have been using it to the exclusion of all other methods.* I am convinced that from the standpoint of efficiency, safety, certainty of action and the surgical principles upon which it is based that *no operation yet devised can compare with it.*" (Italics mine.)

Such commendations as those by Doctors Barkan and McCool come my way so infrequently as to be appreciated possibly out of all proportion. They prove that the old saying, "A prophet is not without honor save in his own country," is sometimes wrong.

I also wish to thank Doctor Mills for the last sentence in his discussion. I am glad he so "successfully" completed my "inadequate" beginnings. It is barely possible that I would have been equally successful had the patients returned to me. I am sorry to learn that he tries to fully correct squints in one operation. Most of our authorities on muscle surgery (Duane, Landolt, Howe, Stevens, Savage) believed that the correction, in nonparalytic cases, should be divided between the two eyes. When too much is done at one place the parallel rotations of the two eyes, and convergence, is apt to be interfered with. For this reason I tell all my patients that several operations may be needed and always ask them not to start unless willing to see it through in my way. Therefore, the ones operated by Doctor Mills violated their agreements with me.

I am sorry that Doctor McCool thinks it necessary to wait twelve to eighteen months after prescribing glasses. Much harm might result from such delay because but few mothers will persist in the alternate monocular occlusion necessary to save the sight in each eye; and because, as he admits, training of binocular vision is so unsatisfactory. If Doctor Mills is correct in his statement that most squints are due to anatomical conditions—and I have always been of the same opinion—what is to be gained by waiting?

I have been specially interested in squint work since 1907, and therefore feel that the following statement is entitled to some consideration. I have *never* seen a full and accurate correction straighten eyes unless it did so *at once*. Sometimes children, brought to me for operation, straighten *at once* with a full and accurate correction replacing a partial and inaccurate one. I am now correcting, by operation, a little girl who was wearing a pair of plus spheres .75. Her actual correction was plus cylinder 4 D. If one has confidence in his refraction, there is *no need to delay operation unduly*. While conditions are not yet ripe to act upon it, I really believe that the best interests of these patients, as a whole, would be served by early operation in all cases. I am certain there would be fewer useless eyes and more pairs of eyes with binocular vision. Provided always that mutilating tenotomies are not done.

My shortening can do no harm, so why not try to do good? *This practice seems more sensible than wait-*

ing till binocular, and possibly monocular, vision is lost and then trying to retrain those functions—usually without success.

Doctor McCool is to be envied his association with "general medical men and pediatricians who are so keenly alive to the importance of the subject" that they refer squinting children to him as soon as the condition is evident. This, to judge from our literature, is *not* the experience of most ophthalmologists.

There is no doubt but that our poor functional results in squints are due:

1. To the failure of the family medical adviser to appreciate the importance of getting these patients under expert care *as soon as the deviation shows itself.*
2. To the failure of mothers to carry out the prolonged and tedious alternate monocular occlusion necessary to save the sight in *each eye.*
3. To the inability to train the binocular function in young children.
4. To the lack of a method safe enough to permit early operative correction.

I feel that I have developed such a method.

RODERIC O'CONNOR, M. D.
San Francisco.

450 Sutter Street.

DEPARTMENT OF PUBLIC HEALTH

By W. M. DICKIE, Director

Epidemic Poliomyelitis Abating.—Epidemic poliomyelitis, which has been present in California during the summer months, has abated greatly and other states are now experiencing the same difficulties with this disease that California suffered during July and August. Poliomyelitis is now about half as prevalent in California as it was in July, when the epidemic reached its peak. New York, Ohio, Kansas and other states are now combating the increased prevalence of this disease and in some communities within those states drastic control measures are employed. In California, the use of stringent methods of control, such as closing schools, theaters and other meeting places, was discouraged, as such procedures are of no proven value in curbing the spread of the disease. The value of this policy is indicated in the abatement of the epidemic in this state without resort to the employment of drastic fear-provoking, ineffective methods of control. The following table shows the trend of epidemic poliomyelitis in California during the present year:

County	January to June 30	July	August	September first two weeks
Alameda	4	—	1	—
Colusa	—	—	1	—
Contra Costa	2	—	—	—
Fresno	8	3	4	5
Humboldt	10	—	—	3
Imperial	10	1	1	2
Kern	4	7	2	—
Kings	2	1	—	—
Los Angeles	190	342	138	57
Madera	—	—	1	1
Marin	—	2	2	—
Mariposa	1	—	—	—
Merced	—	—	—	1
Monterey	1	—	1	—
Orange	20	11	6	2
Placer	—	1	—	1
Riverside	15	15	9	—
Sacramento	2	—	—	—
San Bernardino	29	18	7	—
San Diego	9	12	7	3
San Francisco	6	5	25	19
San Joaquin	—	1	2	2
San Luis Obispo	1	1	—	3
San Mateo	2	1	1	1
Santa Barbara	3	13	7	4
Santa Clara	1	—	5	3
Santa Cruz	—	1	1	1
Sonoma	4	2	4	—
Stanislaus	—	—	—	1
Tehama	—	—	—	—
Tulare	2	5	1	—
Ventura	—	1	1	—
Outside	1	2	2	2
Totals	318	450	229	111

State Fair Exhibit.—The State Department of Public Health maintained an exhibit in the Educational Building at the State Fair in Sacramento. The display consisted entirely of animated charts and models illustrative of the trend of births and deaths in California. Literature upon public health subjects was distributed to all who expressed interest in the subject. Between 150,000 and 200,000 people visited the exhibit, the night fair drawing almost as many people as the daylight hours. Most of those who came during the day were residents of the rural districts and those who came at night were residents of Sacramento and cities within a radius of one hundred or more miles from the Capital.

Epidemic Among Horses.—Following the receipt of reports from the San Joaquin Valley that horses were dying of a disease resembling botulism, the State Department of Public Health made an investigation in order to determine if this epidemic among horses might constitute any sort of menace to the health of human beings. It was found that many horses in the San Joaquin Valley, from Modesto to Bakersfield, are suffering from an epidemic disease which is probably an encephalitis. There is no reason to believe that the outbreak is in any way a menace to the health of human beings. It is known to veterinary science as Borna Disease.

The symptoms of difficulty in swallowing, depression, muscular weakness and paralysis gave rise to the idea that the disease might be botulism, but it was determined that this disease is not involved. The Hooper Foundation for Medical Research cooperated with the State Department of Public Health in making this investigation and in reporting the findings.

San Diego Makes Record in Diphtheria.—The San Diego City Health Department reports no deaths from diphtheria this year (from January 1 to September 10). There have been only twenty cases reported during the same period. Dr. Alex M. Lessem, health officer, makes the following interesting report on diphtheria in his city during the period 1918-1930:

The number of diphtheria cases reported to the health department continues to show a marked decline. The first thirty-six weeks of the year 1930 reveal twenty cases, thirty-nine less than the same period of 1929. During the present year there were twenty-three out of thirty-six weeks in which no cases were reported. There were also eleven consecutive weeks with no cases. There were no deaths reported during the current year to date.

Immunization against diphtheria was inaugurated during the year 1926, and has proceeded continuously. An intensive campaign has been carried on this year, which has resulted in more immunizations than during any other year. The cases have dropped from 251 during 1926 to eighty-five during 1929 and only twenty to date for 1930.

MEDICO-LEGAL

Judge Samuel R. Blake of the Superior Court of the State of California, in and for the county of Los Angeles, in the case of

The People of the State of California on the Relation of Granville MacGowan, Plaintiff, vs. Medical Service Corporation, a Corporation, Defendant,

recently rendered a decision that should be of much interest to members of the California Medical Association.

Because of the importance of this particular decision a digest of Judge Blake's opinion, which recently came into the hands of the editor, is here printed:*

POINTS FOR DECISION

1. Two of the main questions involved are:

- (a) Can a corporation practice medicine?
- (b) Is the manner and method in which the defendant corporation is conducting its business, practicing medicine?

On the first proposition the court concludes that a corporation cannot practice medicine. A corporation may be formed for any purpose for which individuals may lawfully associate themselves.

The defendant's contention is that since doctors may lawfully associate themselves together to practice medicine, likewise it may do so in its corporate capacity as a corporation by employing as its agents qualified physicians and surgeons to do the work of the corporation.

The vice of this contention consists in its assumption that individuals may generally and as a matter of right associate themselves together for the practice of medicine; this assumption is fallacious since under the laws of California individuals may not either singly or in an association engage in the practice of medicine without having a special license so to do, and hence individuals forming a corporation could not under our law gain any other or further right by the act of incorporation than lawfully possessed by either, singly or in the aggregate, without incorporation.

The corporate cannot, of course, as a corporation, pass the medical board examination and can only act through its agents. The right to practice medicine attaches to the individual and dies with him, and it cannot be made a subject of business sheltered under the cloak of corporation having marketable shares descendable under the laws of inheritance. All the directors of this corporation, or stockholders, may be licensed practitioners, but any time these directors or officers, by death or otherwise, may transfer their shares and it might be succeeded by laymen, none of whom possess the right to practice medicine.

Therefore, under the maxim that you cannot do indirectly, as in this case by the creation of a corporation, that which is directly prohibited by law; upon this proposition the great weight of authority in California and elsewhere is that a corporation cannot, as such, practice medicine.

IS THE MANNER AND METHOD UNDER WHICH THE DEFENDANT CORPORATION IS CONDUCTING ITS BUSINESS AMOUNTING TO PRACTICING MEDICINE?

The evidence shows that the defendant corporation is engaged in the business of conducting dispensaries throughout the city of Los Angeles, with its principal office located in the Pantages Building, scattered throughout the industrial district. There are six or seven stations where minor industrial injuries not requiring medical attention are treated. Each of these stations has a waiting room and room where treatment is administered. In each of the stations there is an operating table and instruments necessary to enable a physician to give first-aid treatments. These stations are classed as emergency hospitals and are maintained by the agents of the defendant corpora-

*At the time Judge Blake gave his opinion from the bench, the daily press, in substance, stated that Judge Blake's order dissolved the franchise of the Medical Service Corporation and perpetually enjoined that particular corporation from practicing medicine.

Of course, in a legal matter with such scope and ramifications, this decision is not apt to be the end of the story. The entire situation will continue to bear watching. In the meantime it is a pleasure to know that a verdict has been handed down from a Superior Court bench on some of the legal phases of this important problem which is concerned with the attempt of certain corporations to practice medicine.

It must be a gratification to all members of the California Medical Association to know that the effort and work of Dr. Granville MacGowan of Los Angeles had such a successful outcome.

tion. In each of the stations the defendant maintains one physician, licensed, and these doctors are employed by the corporation on a straight salary, and are paid a small bonus if the company makes a profit from his particular station. The evidence further shows that the corporation confines its activity to purely and entirely industrial cases. The defendant corporation has no nurses at its branches and the only nurse is at the main office. The doctors are at all times employed by the company and the physician and surgeon gives all his time to the defendant corporation. All of the doctors are required to report to a chief surgeon, Doctor Nelson, at the head office. The corporation makes a charge for the services rendered by the doctor whenever a case is closed. The doctor himself makes no charge and the doctors at various stations are not permitted to treat any private cases of their own, and only do the work of the corporation. This is a brief summary of the important facts of the case.

This unquestionably is a case of first impression in the State of California, being a proceeding by the Attorney General to cancel and annul the franchise of this defendant corporation for the reason that they have violated a law of the State of California and engaged in a business as a corporation which it is unlawful to do.

The court concludes that the acts enumerated and done by the defendant corporation constitute practicing a system of medicine, or mode of treating the sick and afflicted in this state, within the meaning of the Medical Practice Act, and, therefore, is in violation of law.

Several other important questions are involved, to wit:

1. Whether or not such a holding affects hospitals and charitable institutions now in existence which are corporations.

Clearly this rule would not in anywise affect hospitals and infirmaries which are not practicing medicine, but are independent of the practice of medicine and surgery, nor are most of those institutions profit-sharing institutions and practicing for profit, while the defendant corporation is, and there is no analogy between the present case and the case of hospitals or other private corporations.

2. The fact that the Workmen's Compensation Act compels all employers to furnish medical and surgical aid to the injured in the course of their employment does not offer any reason for a corporation to engage in the practice of medicine. It only requires that they furnish medical aid of a physician and surgeon, and it is not necessary to form a corporation to furnish a physician and surgeon for medical aid.

If, in the last analysis, corporations are allowed to practice medicine as a general proposition, it is the opening wedge to the commercialization of the practice of the learned profession of medicine, and permits the creeping in of many unethical and uncontrollable factors which the law has heretofore rigidly sought to avoid.

One of the main objections to allowing a corporation to practice medicine would be unquestionably the inability of the state to control the practice of medicine by a corporation as it does control it now under the Medical Practice Act, as each member of the profession comes directly under the Medical Practice Act and the corporation herein does not. Unprofessional conduct on behalf of the corporation could not be reached, such as aiding or betraying a professional secret, advertising, or offenses involving moral turpitude, and many others too numerous to mention.

Unquestionably, if the corporation does not come within the provisions of the Medical Practice Act, it would be immune from its penalties or provisions; therefore it is important to the welfare of the people of the State of California, and hence the importance of the prohibiting of a corporation from practicing

medicine as a corporation and engaging in that business through its agents for profit.

SAMUEL R. BLAKE, Judge.

Attorneys for plaintiff:

U. S. Webb, Attorney General,
Gibson, Dunn & Crutcher, and
Norman S. Sperry.

Attorneys for defendant:

Joe Crider, Jr.

TWENTY-FIVE YEARS AGO *

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. III, No. 11, November 1905

From some editorial notes:

The Meeting Next Year.—The next annual session of the state society, to be held in San Francisco, April 17 to 19, 1906, will mark the beginning of the second fifty years of its existence. . . .

Collier's on Nostrums.—In its issue for October 7, *Collier's Weekly* began the series of articles by Mr. Adams, revealing the inside rottenness of the nostrum fraud, not only as affecting the general public, but also as it concerns the nostrums exploited to and through the medical profession. These articles should be read by every physician who takes the slightest interest in his profession or in professional decency. . . .

The Ones Enmeshed.—In this article Mr. Adams mentions a few of the rank nostrums which, through the medium of the dirty dollars they pay to medical journals for the purpose of aiding in defrauding the medical profession and the sick by means of advertisements, reading notices, and paid-for "original" articles, have been prominent in debauching the profession and enmeshing the medical press in this tight-drawn net of fraud. . . .

Peptomangan.—We take great pleasure in publishing elsewhere in this issue of the journal some matter from the *Journal of the American Medical Association* concerning the "proprietary" known as "_____"—but not "good." The garbled and distorted extract from the report of the Porto Rico Commission has been appearing with regularity in the various representatives of the subsidized medical press of this country, and doubtless a number of honest and confiding physicians have been fooled into believing it. What shall we say of a manufacturer whose love for the medical profession is so great that he will sink to this sort of misrepresentation (to use no harsher word)? . . .

. . . The dirty money of the unscrupulous manufacturer will do almost anything; it will buy any amount of space in so-called medical journals, and it will enable the spender to present any old lie disguised as plausible truth to the medical profession.

Doctor McCormack's Addresses on Organization.— . . . In other professions the members are much more harmonious; they dwell together in charity. Why is this? . . . Doctors but seldom come in contact with each other in the discharge of their professional work. Each one has a certain following which considers him about the best of his kind, and in due course he begins to be possessed of the same idea and to regard his fellow practitioners as rather below him. . . .

. . . Only by coming into personal contact at frequent intervals can medical men really know and appreciate each other, and as their occupation does not bring them together in the regular performance of their professional duties, this end should be secured by frequently meeting together in societies. . . .

* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

... In the legal profession, we almost never see serious dissension. . . . A lawyer's work brings him constantly into contact and association with other lawyers; his whole life work is a postgraduate education; every trial is a clinic; his education is of necessity and by virtue of the very nature of his calling, constantly uppermost, even though unconsciously so. The lawyer meets his kind every day that he practices his profession; he learns to appreciate his own weaknesses and other men's strength; his mind broadens from day to day and from year to year; he does not lead an isolated life. . . .

From an article on "A Case of Pseudohypertrophic Muscular Dystrophy" by Langley Porter, M. D., San Francisco.

D. M., aged seven years eight months, was brought to me six months ago on account of weakness in the legs, and bronchitis. . . .

From an article on "Anesthesia in Ear, Throat, and Nose Operations" by William A. Martin, M. D., San Francisco.

The relative safety of the various anesthetics used in the different operations on adenoids and tonsils is one almost impossible to arrive at. In the first place, all anesthetics are dangerous unless administered by a safe man; and, furthermore, all anesthetics are dangerous unless pure and fresh. . . .

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By CHARLES B. PINKHAM, M. D.
Secretary of the Board

News Items, November 1930

According to reports, Galen F. Maher, licensed chiropractor, was recently arrested in Santa Rosa on a charge of violation of the Medical Practice Act, investigation report stating that he is alleged to have been advertising that he would remove moles, warts, skin cancers, etc., and that with electricity he desiccated the tonsils of the complaining witness. It is reported his defense is that he may practice anything taught in chiropractic schools and colleges.

"Sixty-three American doctors were ordered expelled from Budapest Hospital today in a resolution adopted by the City Council in compliance with a demand from the radical press that they be forbidden to practice in Hungary. The doctors have been studying in the largest hospitals here under world-famous surgeons. In all cases the Americans came for special work and practice in surgery here, where patients are more numerous and operations may be performed with fewer restrictions than in most American cities. . . ." (Consolidated Press dispatch dated Budapest, October 3, printed in the San Francisco Chronicle, October 4, 1930).

"For the second time in two years the State Board of Medical Examiners' net for alleged quack doctors has captured 'Dr.' Howard L. Musick, self-claimed 'wonder man' and manufacturer of a patent remedy which he asserts will cure all ills. He was arrested yesterday at his 'laboratory' by Special Agent William A. Byrne of the medical board, after Policewoman Mary Ross and Special Investigator Helen Jones, posing as patients, declared he had diagnosed their 'ills' and prescribed potions of his 'cure-all' as a remedy. . . . Musick was arrested in the midst of yesterday afternoon's consultation with patients. Fully thirty patients—most of them aged—were awaiting audience with him when the officers arrived. . . . Musick was arrested on similar charges two years ago, but was later acquitted by a jury. It was declared at his trial he had made more than \$3,000,000

from the sale of his remedy over a period of five years. . . ." (Los Angeles Examiner, September 18, 1930). The investigation report relates that in checking up on the business done by him (Musick) it was found that "in the past year Musick had purchased from the Western Drug Company 2,850,000 capsules and 8000 pounds of material, which included 2400 pounds of sulphur, 1900 pounds of aloes, 2700 pounds of cream of tartar, and 1000 pounds miscellaneous. As Musick sells twenty capsules for \$1, it is easy to figure the amount that he has taken in in one year, which, figuring working days only, amounts to \$450 per day."

"Charged with violation of the Medical Practice Act by professing to treat tuberculosis without a medical license, Dr. John P. Shepherd of the Hillside Sanitarium was arrested here today by J. W. Davidson, Special Agent of the State Board of Medical Examiners. According to Davidson, Shepherd claims to have been graduated from the University of Toronto and Jefferson Medical College, but a search of the records of these two institutions has failed to substantiate these claims. . . . Shepherd was arrested several months ago on a similar charge preferred by Davidson. He paid a \$250 fine at that time. . . ." (Santa Rosa Republican, September 22, 1930). John P. Shepherd testified under oath before the Board of Medical Examiners at its meeting held in San Francisco July 8, 1930, and in response to the question as to the medical college from which he graduated, replied: "I think that was from the University of Toronto." He was then asked the question as to whether it was not usually customary for a man who graduated from a medical school to know when and where he graduated, to which Shepherd answered, "I suppose so, yes." The University of Toronto relates they find no record of such a man having graduated. The State of Indiana reports that a John Shepherd was licensed in that state many years ago on the basis of having practiced in Indiana before the Medical Practice Act was passed and they have no record that Shepherd was then the possessor of a medical diploma. It is further related they have no means of knowing whether John P. Shepherd of Santa Rosa is the same individual licensed to practice in Indiana. Special Agent Davidson reported that when he asked Shepherd if he (Davidson) might see Shepherd's Indiana license, Davidson was informed that Shepherd's attorney in Sacramento had it, but he could not think of the name of his attorney. The American Medical Association has furnished information relative to the activities of a John P. Shepherd, formerly located in Chicago and Arizona, they having no record of his having attended a medical school. Information from Indiana relates the difficulties in 1901 of a Dr. John Shepherd, then reported as assistant postmaster at New Brunswick, Boone County, Indiana.

"Dr. William C. Fiske, seventy, Hermosa Beach physician, charged in a grand jury indictment with murder, is scheduled to return to Superior Judge Walton Wood's court to enter a plea to the charge next Tuesday. The aged physician is held responsible for the death of Vera Nelson, twenty-two, who assertedly died in his office after an illegal operation. Judge Wood ruled that the defendant be admitted to \$10,000 bail when he came before the court for arraignment" (Los Angeles Record, October 3, 1930).

Lou Wing, alias Lou Sun, Chinese herb doctor, may not peddle his "cures" through Uncle Sam's mails. Federal chemists who have examined herbs dispensed by Lou Wing found no curative medicine. Word to this effect was received yesterday by the State Board of Medical Examiners (San Francisco Examiner, September 16, 1930). This herb company is known to the Investigation Department of the Board of Medical Examiners as Lau Yit Cho, alias Low Sun, who on July 27, 1927, pleaded guilty in San Francisco and paid a fine of \$300 for violation of the Medical Practice Act.